

**KRATTENMAKER O'CONNOR & INGBER P.C.**

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KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

June 24, 2020

**VIA EMAIL**

Jennifer Raitt, Director  
Department of Planning and Community  
Development  
Town of Arlington  
730 Massachusetts Avenue  
Arlington, MA 02476

Re: 1207-1211 Massachusetts Avenue, Arlington, MA (collectively  
referred to as the "Property") / Docket No. 3602

Dear Director Raitt:

Further to the directives of the Arlington Redevelopment Board (hereinafter referred to as the "Board"), I am providing the Board with the additional information requested and a response to the comments made by members of the Board and certain members of the public:

- Use of the Property

The Property is proposed to be a Mixed-Use project as required by the request for proposal issued by the Town for the property at 1207 Massachusetts Avenue. This proposal is for a restaurant and hotel use. The Bylaw defines "Mixed-Use" as "a combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication, residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live/work environment." Arlington Zoning Bylaw, Article 2, Section 2 (hereinafter referred to as the "Bylaw"). The use of the property is relevant since the Bylaw provides for certain incentives and bonuses for certain uses.

It has been suggested by a member of the public that the bonus provisions, so-called, for floor area ratio set out in Article 5, Section 5.3.6, do not apply because the combined lots are less than 20,000 square feet and the principal use is "residential". In support of this position, this individual cites Article 5, Section 5.5.3 and the heading in the use regulations section. The headings in the Bylaw are not dispositive on this issue and such a position is incorrect as a matter of fact and law. Indeed, the parking and bicycle space requirements for hotels/motels are listed under the heading of "Business or Industrial Use" in Article 6, Sections 6.1.4 and 6.1.12.

Article 2, Section 2, specifically states, "[i]n this Bylaw and unless the context of usage clearly indicates another meaning, the following terms shall have the meanings indicated herein."



**KRATTENMAKER O'CONNOR & INGBER P.C.**

Jennifer Raitt, Director

June 24, 2020

Page 2

Where there are definitions in a local bylaw, the Board must rely on the definitions in making its determination. This statement in Article 2 is in accordance with ordinary principles of statutory construction. *Deadrick v. Zoning Board of Appeals of Chatham*, 85 Mass. App. Ct. 539, 545 (2014).

The Bylaw does not define “residential use” but defines “dwelling”. “Dwelling” is defined in the Bylaw as follows:

A privately or publicly owned permanent structure, whether owned by one or more persons or in condominium, or any other legal form which is occupied in whole or part as the home residence or sleeping place of one or more persons. The terms “efficiency,” “single-family,” “two-family,” “duplex,” “three-family” or “multi-family” dwelling, or single-room occupancy building, shall not include hotel/motel, bed and breakfast, hospital, membership club, mixed-use, or mobile home. (emphasis supplied).

Article 2, Section 2 specifically excludes in its definition of “dwelling” “hotel/motel” use and “mixed-use” among other uses. Accordingly, the Board is bound by the definition which clearly states that the definition of dwelling shall not include hotels or motels or mixed-use.

I am informed and, therefore, believe that Attorney Douglas Heim, Town Counsel for the Town, has provided you with a legal opinion that a mixed-use development is permitted in both zoning districts in which this proposed project is intended to be located.

- Floor Area Ratio Calculation for the Building, Bonus and Open Space<sup>1</sup>

Article 5, Section 5.3.6 references the exceptions to the maximum floor area ratio (“FAR”) regulations or the “bonus” FAR, so-called. The determination that the proposed project is not a dwelling is relevant to the determination of the bonus FAR provisions contained in Article 5, Section 5.3.6. Article 5, Section 5.3.6C sets out the additional gross floor area or bonus FAR permitted.

The square footage of both lots is 14,030. The GFA would be 21,045 square feet (14,030 x 1.5 – see Article 5, Section 5.5.2. The bonus FAR would be 2,104 (21,045 x .10). See Article 5, Section 5.3.6(D)(5).

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<sup>1</sup> The building inspector, Michael Ciampa, has determined that: (a) the floor area of the cellar of the proposed hotel and restaurant is excluded from the calculation of Gross Floor Area as more than one half of its height, measured from finished floor to finished ceiling is below the average finished grade of the ground adjoining the building. Article 2 and Article 5, Section 5.3.22(A)(6); and (b) bay windows that are more than two feet off the floor are likewise excluded from the calculation of Gross Floor Area.



## KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director  
June 24, 2020  
Page 3

Section 5.3.6A specifically authorizes the Board to grant a special permit subject to the standards contained in Section 3.3 or 3.4, as applicable, to allow a maximum gross floor area higher than is permitted in the district subject to the requirements set out at 5.3.6A(1)-(3). Accordingly, the total GFA permitted would be 23,149 (21,045 + 2,104). The petitioner's proposed GFA is 22,845 square feet.

The petitioner suggests that this proposal satisfies the requirements of Article 5, Section 5.3.6A(1) and (2).

The petitioner is proposing "public access" space, which will provide for a public art and presentation area located in the front right area of the Property. As such, the Property, two lots which are being aggregated with the B-4 use the larger use, is entitled to a 10% increase in FAR. The revised plans which are attached indicate that the petitioner is granting the Town 675 square feet of bonus FAR space, which is substantially more than is required by the Bylaw.

Mr. Benson requested that I provide a draft easement for review by the Board. Attached is the proposed draft, which I have also sent to Attorney Douglas Heim, town counsel, for his review and comment. The easement will be named after Commander James Curley, past commander of the Arlington Disabled American Veterans' Post and a plaque will be installed at the petitioner's expense.

- Corner Lots, Setbacks and Upper Story Stepback

Article 5, Section 5.3.8(A) provides that a "corner lot shall have minimum street yard depths which shall be the same as the required front yard depths for the adjoining lots. The lot adjoining the property at issue on Clarke Street located in an R-2 zone has a front yard depth of 7.9 feet.

The Bylaw requires no front or side yard setback for a Mixed-Use Development, Article 5, Section 5.5.2(B).

The approved correct version of Article 5, Section 5.3.17 provides for an additional 7.5 foot stepback beginning at the fourth story "along all building elevations with street frontage . . ."<sup>2</sup>

The Board, as confirmed by Town Counsel in his memorandum dated May 13, 2020, has the authority to grant an adjustment to the required setbacks and stepbacks as set forth elsewhere

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<sup>2</sup> Town Counsel's Memorandum dated May 13, 2020, addresses the correct version of Section 5.3.17 to be applied by the Board.



**KRATTENMAKER O'CONNOR & INGBER P.C.**

Jennifer Raitt, Director  
June 24, 2020  
Page 4

in the Bylaw to account for specific conditions unique to the proposal. Thus, the Board has the authority to eliminate or reduce the 7.5 stepback referenced in Article 5, Section 5.3.17.

The petitioner suggests that the conditions unique to this proposal are the development of a mixed-use project, which contains a boutique hotel on substantially unimproved lots. In order to be successful, there must be adequate room revenue. The proposed building is located five feet from the property line on Clarke Street at its closest point and goes to twelve feet from the property line on Clarke Street. The petitioner suggests that the setback of the building from the lot line satisfies the spirit and intent of Article 5, Section 5.3.17.

The petitioner suggests that also unique to this proposal is the fact that this Mixed-Use project will convert a vehicular-oriented business district lot to an aesthetically pleasing mixed-use development that will provide amenities for the Town. The Bylaw, in fact, encourages the conversion of B-4 uses "to other retail, service, office, or residential use, particularly as part of a mixed-use development." (emphasis supplied) Bylaw, Article 5, Section 5.5.1(E).

The petitioner suggests that this project comports with the purposes of the Bylaw to, inter alia, "achieve optimum environmental quality through review and cooperation by the use of incentives, bonuses and design review; and to preserve and increase its amenities and to encourage an orderly expansion of the tax base by utilization, development and redevelopment of land." The proposed project also comports with the Master Plan commissioned by the Town.

In the alternative, as a matter of law, the petitioner suggests that on the issue of "frontage" and any fourth floor story stepback along Clarke Street, there is no "frontage" on Clarke Street.

In Cronin v. Zoning Board for the Town of Lunenburg, a 2009 Massachusetts Land Court decision, (Piper, J.), Misc. 08-381588, the court held that the Zoning Board correctly applied the definition of frontage in its bylaw, which provided that frontage was to be measured along a single street bordering the property even if the property bordered two intersecting rights of way. The court held that the Lunenburg bylaw, which references only a single street in defining frontage, intentionally restricted frontage to one street. The court found that the town failed to use less restrictive language in defining frontage to include "any" public or private right of way, thus, requiring an interpretation of the Lunenburg bylaw limiting the definition of frontage to frontage along a single street.

The court concluded, inter alia, in the Cronin case that the definitional language of the bylaw indicated that not more than one street bordering the property would constitute frontage. A copy of the Cronin case is attached.

The definition of "frontage" in the Bylaw is substantially similar to the definition in the Cronin case. Though the Bylaw contains an illustration that references frontage for a corner lot,



## KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director

June 24, 2020

Page 5

any illustrations in the Bylaw are not dispositive on this issue as the illustrations are “not part of the Arlington Zoning Bylaw.” As such, the Board is to be guided by the applicable case law.

- Parking

The Bylaw requires that in a Mixed-Use project, the number of parking spaces required is the sum of uses computed separately. Bylaw, Article 6, Section 6.1.4. The proposed hotel is fifty (50) rooms, which would require fifty (50) spaces – one space per room. A restaurant use in a hotel requires one space per 400 sq. feet of restaurant space. Bylaw, Article 6, Section 6.1.4. Article 6, Section 6.1.10(C) provides that “[f]or Mixed-Use development, the first 3,000 square feet of nonresidential space is exempt from the parking requirements of this Section 6.1.”

Given that the restaurant space itself is 2,800 square feet or nearly 3,000 square feet, there would be no requirement for parking spaces for this use. Accordingly, the number of parking spaces prior to the application of Article 6, Section 6.1.5 the petitioner is required to provide is fifty (50).

Under Article 6, Section 6.1.5, the Board has the authority to reduce parking in Business zones to 25 percent of that required in the Table of Off-Street Parking Regulations if the proposed parking is deemed adequate and where Transportation Demand Management Practices are proposed.

At the request of Mr. Watson, the petitioner has added an electric car charging station to the project. The petitioner is no longer pursuing his request to include tour bus parking at the proposed site.

The petitioner suggests the proposed parking is indeed adequate and has previously provided a Transportation Demand Management Plan. As such, Article 6, Section 6.1.5(C)(1), (6), (8) and (9) apply, enabling the Board to reduce the number of parking spaces to thirteen (13). The petitioner is proposing twenty-four (24) separate parking spaces, which also includes a handicapped space. Due to various enhancements to the hotel design and to facilitate deliveries in the rear of the project, three spaces were required to be removed. Here, the petitioner seeks a reduction to forty-eight percent of the parking required in the Table of Off-Street Parking Regulations or nearly double the number of spaces required by Article 6, Section 6.1.5. Further, the petitioner has the ability to stack or tandem park eight (8) additional cars due to its use of a valet. The Board may recall this approach was approved for Homewood Suites when it applied for its special permit to expand the number of rooms at the hotel. This brings the number of onsite hotel guest spaces to thirty-two (32) spaces or sixty-four percent (64%) of the spaces required by the Table of Off-Street Parking Regulations or two and one-half times the number of parking spaces required by Article 6, Section 6.1.5.



**KRATTENMAKER O'CONNOR & INGBER P.C.**

Jennifer Raitt, Director

June 24, 2020

Page 6

Further, as the Board requested, the petitioner has secured ten spaces for employee parking. The Executive Secretary for the Select Board, Marie Krepelka, has advised the petitioner that, once the project is approved, seven (7) parking spaces will be rented to the petitioner in the Ottoson Middle School parking lot when school is not in session, specifically, weekdays from 2:30 p.m. to 7:00 a.m., all day weekends, school holidays and vacation periods or at either the skating rink or Hurd Field. The Town makes available for rental spaces in various Town-owned lots. Further, the petitioner has secured three (3) spaces at 1289 Massachusetts Avenue. See the enclosed letter. These ten (10) spaces would be for employee parking only.

The total available parking spaces would be forty-two (42), thirty-two (32) spaces for use for hotel guest parking and ten (10) parking spaces for use by restaurant and hotel employees.

The petitioner suggests that the available parking provided and the Transportation Demand Management Plan, clearly satisfy the intent and requirements of Article 6, Section 6.1.5.

- Parking Restrictions

The Board has requested that the parking available onsite be exclusively for hotel guests. To best accomplish this, the petitioner suggests that during the hours the restaurant is open that a sign be placed at the drive entrance stating that parking is for hotel overnight guests only. The valet service will only park vehicles for guests staying at the hotel.

- Shadow Study

The petitioner has previously provided the Board with a shadow study. Subsequently, a resident, Don Seltzer, who is not an abutter to this proposed development, submitted an "Extended Shadow Study for Hotel Lexington Project," so-called. Mr. Seltzer is not an expert in the field and his submission is not competent evidence upon which the Board may rely. The Board is required to consider reports and studies prepared by experts in the respective fields.

The enclosed shadow study has been updated based on the site topography and not a flat plane. The study was prepared by Lincoln Architects, a qualified expert in the field.

- Traffic Impact Report

Michael Santos, a professional engineer and a certified professional traffic operations engineer associated with BSC Group, Inc., has previously submitted a traffic information summary dated January 16, 2020.

In his January 16, 2020 summary, he concluded that: (a) the proposed project is expected to have a minimal impact on the surrounding roadway network through most of the day; (b) the



**KRATTENMAKER O'CONNOR & INGBER P.C.**

Jennifer Raitt, Director

June 24, 2020

Page 7

periods that would experience the most impact will occur during off-peak commuter hours, i.e. hotel check-in and check-out; (c) the proposed restaurant will have the highest impact after the weekday evening commuter peak hours when traffic volumes are typically lower; (d) there will be no right turns from the parking area onto Clarke Street northbound; and (e) all deliveries and trash removal service will occur onsite.

Enclosed is a more detailed traffic impact study performed by Mr. Santos, which contains traffic counts for the area, including intersections identified by the Director of Planning, which confirms and validates Mr. Santos' prior conclusions.

- Plan Revisions

The architectural plans have been revised to reflect various comments from the Board members and residents. Some of the revisions include the reduction in height of the front bay windows, the widening of the band around the front of the building, change in style of the rear fourth floor windows, relocation of the equipment screening on the roof, additional shrubbery and landscaping at the front and side of the property and the removal of the sign facing Clarke Street.

- Submittals

Enclosed is the following additional submittals and/or information as requested by the Board:

- a. Offsite parking letter for hotel and restaurant employee parking.
- b. Passenger loading and unloading will be done in the front driveway and portico. Further, I have spoken with Nilesh Patel, the proprietor of BB Liquors, the package store, which is the entity that will be occupying 1215 Massachusetts Avenue. Messrs. Patel and Doherty have agreed to consult and coordinate deliveries to ensure that there are no delivery conflicts. Further, deliveries to the hotel and restaurant can be made either in the front driveway or the rear parking area. The petitioner will defer to the Board as to its preference. Deliveries will be scheduled to avoid morning and afternoon rush hours.
- c. Updated shadow study, which is contained in the plan set.
- d. Building elevations and a site survey prepared by Engineering Alliance, Inc.
- e. An updated site plan prepared by Lincoln Architects, LLC, which includes, among other things, the "bonus" FAR, totaling 675 as well as the location of



**KRATTENMAKER O'CONNOR & INGBER P.C.**

Jennifer Raitt, Director  
June 24, 2020  
Page 8

the proposed drainage system. It also shows the turning radius onto Clarke Street from the proposed project.

- f. Plans for sidewalk upgrades adjacent to the curb cut on Clarke Street are included in the plans. The new sidewalks will be to the Town's specifications and will meet ADA requirements.
- g. Lighting/photometric plan prepared by Shepherd Engineering, Inc.
- h. Updated plans that address design issues raised at prior meetings.
- i. Renderings showing the location of rooftop mechanical equipment.
- j. Information as to the exterior siding have been updated and included on the plans. The petitioner is awaiting delivery of material samples for submission to the Board.

Finally, Mrs. Le Royer expressed a concern as to how the Town will ensure that the project once constructed will not deteriorate and will comport with the permit granted. The petitioner suggests that the Board has the ability and routinely exercises its authority to ensure that a project remains in compliance with the general and special conditions voted by the Board by retaining jurisdiction.

On behalf of the petitioner, I thank the Board and Ms. Raitt for the significant amount of time and input they have provided on this project.

Very truly yours.

Mary Winstanley O'Connor

MWO/ccg  
Enclosures  
6214

cc: James F. Doherty



June 19, 2020

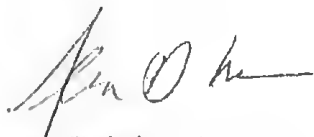
Andrew Bunnell, Esq., Chairperson  
Arlington Redevelopment Board  
733 Massachusetts Avenue  
Arlington, MA 02476

Re: 1207 - 1211 Massachusetts Avenue, Arlington, MA  
Docket No. 3602

Dear Mr. Bunnell:

This letter shall confirm that, in the event the special permit is granted in the above-referenced matter, I will rent three (3) parking spaces at 1289 Massachusetts Avenue, to be utilized by employees of the proposed hotel.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Sean Galvin", with a stylized flourish at the end.

Sean Galvin, Trustee  
1020-1024 Beacon Street Realty



## EASEMENT AGREEMENT

This **EASEMENT AGREEMENT** (this "**Easement**") is made as of this \_\_\_\_ day of \_\_\_\_\_, 2020, by and among **JAMES F. DOHERTY**, Trustee of the 1211 Massachusetts Avenue Realty Trust, a Massachusetts nominee realty trust under declaration of trust dated November 21, 2012 and recorded in Middlesex So. Registry of Deeds in Book 60543, Page 430 (hereinafter referred to as the "**Grantor**"), and the **TOWN OF ARLINGTON**, a municipal corporation, having an address of 730 Massachusetts Avenue, Arlington, MA 02476, acting by and through its Redevelopment Board (hereinafter referred to as the "**Town**" or "**Grantee**").

### WITNESSETH:

WHEREAS, Grantor is the owner of certain property situated at and known as 1207-1211 Massachusetts Avenue in the Town of Arlington, Middlesex County, Commonwealth of Massachusetts, containing approximately 675 square feet (hereinafter referred to as the "**Property**"), and which is more particularly described on Exhibit A;

WHEREAS, the Town in its Zoning Bylaw, last amended on April 22, 2019, specifically Article 5, Section 5.3.6, empowered the Arlington Redevelopment Board (hereinafter referred to as the "**Board**") to grant a special permit to allow for a maximum gross floor area greater than is permitted to an applicant seeking a special permit, when an easement is granted to the Town for public access and use;

WHEREAS, the Grantor has requested that the Board approve additional gross floor area in consideration of the above-referenced grant of a public access and use easement; and

WHEREAS, the Board on \_\_\_\_\_, 2020 granted a special permit to the Grantor for the properties known and numbered as 1207 and 1211 Massachusetts Avenue, Arlington, MA in Docket No. 3602, which included, inter alia, additional gross floor area for the proposed project referenced therein (hereinafter referred to as the "Project").

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

#### 1. Grant of Easement.

- a. Grant of Easement: Public Use and Access. The Grantor hereby grants to the Town, for the benefit of the inhabitants of the Town of Arlington and the general public, a non-exclusive right and easement over, across and through the land specifically identified in Exhibit "B" attached hereto (hereinafter referred to as the "Easement"). Grantor hereby agrees and acknowledges that the inhabitants of the Town of Arlington and the general public shall have the right, upon the completion of the construction of the Project, to the use and enjoyment of the Easement pursuant to the provisions of subparagraph 1.b. below.



Grantor hereby agrees and acknowledges that Town shall have the right to utilize the Easement for such public activities and events as the Town may desire to sponsor, from time to time, provided, however, that (i) such use by the Town shall be subject to the reasonable rules and regulations as Grantor and the Board may establish from time to time for the Property; (ii) to the extent permitted by law, Town agrees to indemnify and hold Grantor harmless from any and all claims, damages, liabilities, obligations, costs and/or expenses, including, without limitation, reasonable attorneys' fees, incurred or suffered by Grantor as a result any injury, death or property damage suffered by any parties, as the result of the Town's use of the Easement for such purposes; and (iii) to the extent that the Town carries insurance or self-insures against liabilities with respect to public roadways and/or sidewalks within the Town, it will use reasonable efforts to ensure that such self-insurance will cover its use of the Easement for the above purposes. The Easement shall be utilized for cultural, patristic, poetic and educational purposes. It shall not be utilized for any politically partisan purposes. The Easement shall be utilized for scheduled purposes two (2) times per week during the following time periods: Monday-Friday 10:00 a.m.-7:00 p.m. and Saturday-Sunday 11:00 a.m.-8:00 p.m.

- b. Redevelopment of the Property. Grantor shall deliver to Town an as-built plan showing the location of the Easement Area (the "**As-Built Easement Plan**"), which As-Built Easement Plan shall contain the square footage of the Easement Area, shall depict an Easement Area that is materially consistent with the location and extent of the same depicted on the Plans submitted to the Board and shall otherwise be reasonably acceptable to the Town. In the event that the Board does not approve the As-Built Easement Plan within twenty (20) days of its receipt (or deemed receipt) thereof, the As-Built Easement Plan shall be deemed approved by the Board. Upon the Town's approval, whether actual or deemed, of the As-Built Plan, the Grantor shall cause the As-Built Plan to be recorded with the Registry of Deeds and provide the recording information of such Plan to the Town upon the Grantor's receipt thereof.
- c. Grantor's Retained Rights. Grantor hereby agrees and acknowledges that he shall keep the Easement Area open and unobstructed at all times, subject, however, to Grantor's rights contained in subparagraph 1.b. above and to the following further limitations:
  - i. the Grantor specifically reserves the right to construct and install utilities, as well as landscaping, lighting and other amenities, upon, above and below the surface of the Easement Area; provided, however, that such installation of such utilities, as well as landscaping, lighting and other amenities, do not materially interfere with the Town's use and enjoyment of the Easement Area; and



- ii. the Grantor reserves the right to perform any maintenance, repair, and/or replacement of any and all improvements and utilities upon, above, or below the Easement Area, including, without limitation, hardseaped and landscaped elements within such Area, and, in connection with such activities to temporarily close the Easement Area or to restrict pedestrian access to portions thereof. Except in cases of emergency (i.e. occurrences involving an imminent threat of damage or injury to persons or property), which shall be determined in the sole discretion of the Grantor, the Grantor will provide reasonable advance written notice to the Town before commencing any work in the Easement Area that will disrupt, in whole or in part, the Town's use thereof. Whenever any work is to be performed upon the Easement, such work shall be performed (a) in a safe, diligent and workmanlike manner and in compliance with all applicable laws, ordinances, orders, rules, regulations and requirements of all governmental authorities having jurisdiction thereover and with all necessary permits and approvals having been issued therefore, and (b) in a manner that causes the minimum amount of interference with the Town's use and enjoyment of the Easement Area.
  - d. Name. The Easement shall be named "The Commander James Curley Plaza" and will contain a plaque installed by the Grantor containing information as to Commander Curley's volunteer work for the Town and its disabled American veterans.
2. Term. The rights and easements granted herein shall commence upon the grant of a certificate of occupancy for the Project and shall remain in full force and effect for so long as the Project is constructed and continues to exist on the Property and Grantor is exercising its respective rights with regard to the same under any Special Permit granted by the Town of Arlington Redevelopment Board. Notwithstanding the above, the parties hereby agree that if Grantor does not commence the proposed redevelopment Project referenced in Docket No. 3602, this Easement shall automatically terminate and shall be deemed null and void and without further force or effect, without the need for the parties to execute or record any release or any other document.
3. Miscellaneous Provisions. Notwithstanding anything to the contrary contained herein, the rights with respect to the Easement Area are granted subject to the following:
- a. Non-Interference. The Town's use of the Easement Area shall not materially interfere with the use and enjoyment of the Property by the Grantor or his respective successors and assigns. Except for the rights and easement expressly granted herein, no other easements, whether express or



implied, are granted or created by this instrument. Without limitation of the foregoing, nothing herein shall be deemed to create any rights on the part of the Town outside of the Easement Area or any rights to enter onto the Easement Area for maintenance and repair purposes.

- b. Notices. All notices and other communications authorized or required hereunder shall be in writing and shall be given (1) by hand delivery, (2) by mailing the same by certified mail or registered mail, return receipt requested, postage prepaid, or (3) by overnight air courier or express delivery service with proof of delivery acknowledged. Any such notice or other communication shall be deemed to have been given when received by the party to whom such notice or other communication shall be addressed, or on the date noted that the addressee has refused delivery, or on the date that the notice is returned to sender due to the inability of the postal authorities to deliver. Any party hereto may change the address to which notices to it shall be sent by a notice sent in accordance with the requirements of this Section 3.b. Notice shall be given to the following:

**To Grantor:**

James F. Doherty, Trustee  
c/o 1122 Massachusetts Avenue  
Arlington, MA 02476

**With a copy to:**

Mary Winstanley O'Connor, Esq.  
Krattenmaker O'Connor & Ingber P.C.  
One McKinley Square, 5<sup>th</sup> Floor  
Boston, MA 02109

**To Grantee:**

Town of Arlington  
Arlington Redevelopment Board  
733 Massachusetts Avenue  
Arlington, MA 02476  
Attn: Jennifer Raitt, Director of Planning

**With a copy to:**

Douglas Heim, Esq.  
The Office of the Town Counsel  
50 Pleasant Street  
Arlington, MA 02476



- c. Successors and Assigns. The rights, easement, liabilities, agreements and other obligations as set forth shall inure to the benefit of and be binding upon the heirs, successors and assigns of the Grantor; provided, however, that the Grantor shall only be responsible hereunder for matters occurring on or with respect to the Easement Area, and only during its period of ownership of the Property. In no event shall any member, manager, director, officer, employee, shareholder, partner, trustee, tenant, agent or representative of the Grantor, an owner of all or any portion of the Property, or any mortgagee ever be personally liable for the payment or performance of any obligations under this Easement, and the Town agrees to look solely to the Property, in satisfaction of Grantor's obligations under this Easement. The Town acknowledges that it shall not have the right to assign any rights granted hereunder to any party without the written consent of the Grantor, which consent may be granted, withheld, conditioned or delayed in Grantor's sole and absolute discretion. Upon the expiration of the Term as set forth in Section 2 above, Grantors may record an affidavit evidencing such expiration with the Registry.
- d. Subject to Existing Record Matters. The rights and easement herein granted are subject to all restrictions, covenants, easements and other encumbrances of record to the extent in force and applicable.
- e. Amendments. This Easement may be amended or modified at any time by a declaration in writing mutually agreed to, executed and acknowledged by each of the parties hereto, and thereafter duly recorded in the Registry.
- f. Severability. If any term, provision, covenant or condition of this Agreement shall be or become invalid, illegal or unenforceable in any respect under any applicable law, the validity, legality and enforceability for the remaining provisions (or the application of such term, provision, covenant or condition to persons or circumstances other than those in respect of which it is invalid or unenforceable), except those terms, provisions, covenants or conditions which are made subject to or conditioned upon such invalid or unenforceable term, provision, covenant or condition, shall not be affected thereby, and each other term, provision, covenant and condition of this Agreement, unless conditioned upon such invalid or unenforceable term, provision, covenant or condition, shall be valid and enforceable to the fullest extent permitted by law.
- g. Effect on Other Agreements. This Easement does not affect the rights and obligations of the parties under any other agreement between the parties.
- h. Counterparts; Headings. This Easement may be executed in multiple counterparts, each of which shall be deemed an original and all of which, collectively, shall be deemed one and the same instrument. The headings herein are inserted only as a matter of convenience and for reference and in



no way define, limit or describe the scope or intent of this document nor in any way affect the terms and provisions hereof.

- i. Governing Law. This Easement shall be governed by the laws of the Commonwealth of Massachusetts as the same may now exist or may be hereinafter enacted.

*[Signatures appear on the following page]*



EXECUTED as a sealed instrument as of \_\_\_\_\_, 2020.

**GRANTOR:**

1211 MASSACHUSETTS AVENUE  
REALTY TRUST, a Massachusetts  
nominee realty trust

By: \_\_\_\_\_  
Name: James F. Doherty  
Title: Trustee  
Hereunto Duly Authorized

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss:

On this \_\_\_\_ day of \_\_\_\_\_, 2020, before me, the undersigned notary public, personally appeared JAMES F. DOHERTY, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the Trustee of 1211 Massachusetts Avenue Realty Trust, and acknowledged to me that he signed it voluntarily for its stated purpose as the Trustee of the realty trust.

\_\_\_\_\_  
Notary Public

Print Name: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

*[affix seal]*



**GRANTEE:**

TOWN OF ARLINGTON  
REDEVELOPMENT BOARD

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ANDREW BUNNETT, ESQ.  
Chairperson

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EUGENE BENSON

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KIN LAU

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DAVID WATSON

---

RACHEL ZSEMBERY





DANIEL W. CRONIN and JACQUELYN M. CRONIN vs. DONALD BOWEN, RAYMOND BEAL, JAMES BESARKARSKI, HANS WENTHRUP DAVID BLATT, SHEILA LUMI, and PAUL DOHERTY, As They are Members of the Zoning Board of Appeals for the Town of Lunenburg; and EDWARD M. CATALDO, As He is Alternate Building Inspector

MISC 08-381588

October 7, 2009

WORCESTER, ss.

Piper, J.

## DECISION DENYING PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT and GRANTING DEFENDANT'S CROSS-MOTION FOR SUMMARY JUDGMENT

This matter came before the court on the motion for summary judgment filed by plaintiffs Daniel W. Cronin and Jacquelyn M. Cronin (¶plaintiffs¶ or ¶Cronins¶). Pursuant to G. L. c. 40A, §17, plaintiffs appeal from the decision (¶Decision¶) of



the Zoning Board of Appeals ("Board" or "ZBA") of the Town of Lunenburg ("Town") whose members are defendants. The Board filed the Decision with the Clerk of the Town on May 28, 2008. In its Decision, the Board upheld the denial--by the Town's Acting Building Inspector ("inspector"), also named as a defendant--of the Cronins' application for a residential building permit.

The focus of this litigation is on the compliance with the dimensional zoning requirements of the Town of a lot owned by plaintiffs. The plaintiffs assert that the Town officials involved incorrectly measured this property's frontage and lot width, and that a proper calculation would show that the relevant portion of plaintiffs' land in the Town, numbered 27 Oak Avenue, shown on a recorded plan as Lot 2, all as described more particularly below, has both sufficient frontage and lot width to comply with the municipal zoning law. Because the inspector took the contrary view, concluding that Lot 2 failed to meet these dimensional requirements, he denied a building permit which plaintiffs had sought for an abutting parcel they own, known as Lot 1B.

The inspector determined that, because Lots 1B and 2 had been owned together, and Lot 1B came to be established separately as a result of a division of the larger holding--which left Lot 2 in violation of the contested dimensional requirements--Lot 1B was not eligible for a building permit. The inspector applied the doctrine sometimes referred to as "infectious invalidity" to determine that, under the circumstances present here, the dimensional shortfalls of Lot 2, which had already been improved with a residential structure, prevented issuance of the requested building permit for construction of a house on currently unimproved Lot 1B. See, on infectious invalidity, *Alley v. Building Inspector of Danvers*, 354 Mass. 6 (1968).

The inspector's stated grounds for denial were that Lot 2 had insufficient frontage and lot width under the dimensional zoning requirements in the Protective Bylaw of the City of Lunenburg ("Bylaw"). The Board, in its Decision, upheld these conclusions. The defendants assert that the inspector properly applied the Bylaw, and correctly denied the Cronins' building permit request.

On June 13, 2008, the Cronins filed in this court a complaint for judicial review of the Board's denial of their administrative appeal from the building inspector's determination that he could not issue the building permit. On November 17, 2008,



plaintiffs filed a motion for summary judgment and a supporting memorandum of law. On December 19, 2008, the defendants filed an opposition to the plaintiffs' motion, a cross-motion for summary judgment, and a supporting memorandum of law. After argument, upon review of the record, and following consideration of the moving and supporting papers, the court now decides the motions before it.

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The following facts are properly before the court for its consideration based on materials submitted pursuant to Mass. R. Civ. P 56 (c), and appear to be undisputed:

1. As of 2004, the Cronins owned property in Lunenburg located at 31 Turkey Hill Road. In March of that year, the Cronins purchased the neighboring lot, 27 Oak Avenue, the lot at the intersection of Turkey Hill Road and Oak Avenue.

2. Bylaw Section 2.1.1.17 sets forth the following definition of "Frontage":

The linear extent of the line: measured along a street right-of-way from the intersection of one side lot line to the intersection of the other side of the same lot, provided that; a) The lot is on a street or way legally accepted by the Town Meeting vote, or b) The lot is on a street or a way established by a county, state, or federal authority, or c) The lot is shown on a street or a way established by a subdivision plan approved in accordance with the Subdivision Control Law, or d) The lot is on a street or way on a list maintained by the Town Clerk which is determined to qualify for frontage under the provisions of this section. □

3. Bylaw Section 2.1.1.28(b) defines "lot width" as:

Lot width is the minimum distance between the side lot lines of the lot measured on any line parallel to a line joining the intersection of the side lot line with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way line.

4. At the time of purchase, 27 Oak Avenue had a lot width of 140 feet. In this respect, the defendants concede that 27 Oak Avenue was a lawful, pre-existing non-conforming lot.



5. On March 28, 2005, the Lunenburg Planning Board endorsed, under G. L. c. 41 § 81P, a so-called "Approval Not Required Plan" titled "Plan of Land in Lunenburg, Massachusetts Scale 1 in. = 40 ft. Prepared for: Daniel Cronin" ("ANR Plan"), dated February 15, 2005; the ANR Plan was recorded on April 1, 2005 in the Worcester (Northern District) Registry of Deeds in Plan Book 454, Page 21. A copy of a portion of the ANR Plan is attached to this Decision as an exhibit.
6. As shown on the ANR Plan, Turkey Hill Road and Oak Avenue meet at a rounded corner at the 27 Oak Avenue property, which is shown on the ANR Plan as Lot 2. The ANR Plan shows a curve, as measured along the line of the boundary which Lot 2 has with these adjoining streets, having a radius of twenty feet and a circumference of 31.42 feet.
7. The ANR Plan showed the reconfiguration of the land which had been 27 Oak Avenue and 31 Turkey Hill Road to create, in addition to those two previously built-upon house lots, a new lot ( "New Lot" or "Lot 1B") shown on the ANR Plan as Lot 1B, containing 96,762 square feet. It is this Lot 1B for which the unsuccessful application for a building permit was made, giving rise to the appeal now before this court. The New Lot, as shown on the ANR Plan has a 52.88-foot wide stretch of frontage on Turkey Hill Road.
8. According to the ANR Plan, with the creation of the New Lot, 31 Turkey Hill Road, shown as Lot 1A, has 61,043 square feet; 27 Oak Avenue has 40,178 square feet; and the New Lot comprises 96,762 square feet.
9. The ANR plan shows that currently 31 Turkey Hill Road and 27 Oak Avenue each contain one residential building.
10. The ANR Plan also shows that 27 Oak Avenue has two driveways, which enter from both Turkey Hill Road and Oak Avenue. These driveways existed when the plaintiffs purchased the property. 27 Oak Avenue also has a pool located behind the residential structure; the pool is not displayed on the ANR Plan.
11. Neither the New Lot nor 27 Oak Avenue connected to the municipal sewer when the plaintiffs created the New Lot. 27 Oak Avenue depended on a private septic system.



12. In 2004, the plaintiffs proposed to extend the municipal sewer line onto Turkey Hill Road from Oak Avenue, as Turkey Hill Road did not connect to the municipal sewer. This proposal was withdrawn.

13. In January 2005, the plaintiffs' engineer, Mr. Steven Marsden (||Marsden||), met with Building Inspector Sauvageau (||Sauvageau||) to discuss a proposal to connect the New Lot to the municipal sewer present on Oak Avenue. The plan for sewer connection was to have a five foot wide strip of land, at and formerly part of the southwestern side of Lot 2, separated from Lot 2's ownership and transferred to the undeveloped Lot 1B. This strip, denominated Parcel C on the ANR Plan, was to serve as the locus of the sewer pipe connecting Lot 1B to the sewer main in Oak Avenue.

14. On April 5, 2005, the Lunenburg Selectmen, acting as Sewer Commissioners, approved that plan, in the configuration depicted on the ANR Plan.

15. The plaintiffs transferred by deed the fee ownership of the five-foot wide by approximately 260- foot long strip, Parcel C, to serve as an extension of Lot 1B, along the southwestern lot line of 27 Oak Avenue, permitting the New Lot to connect to the municipal sewer in Oak Avenue. The plaintiffs subsequently received the necessary permits, and installed sewer lines in the strip, to connect both 27 Oak Avenue and the New Lot to the sewer main in Oak Avenue.

16. On February 8, 2008, the plaintiffs applied for a building permit to construct a single-family house on the New Lot.

17. In a letter to the plaintiffs dated February 15, 2008, Alternate Building Inspector Cataldo denied the building permit for the New Lot, stating his conclusion that 27 Oak Avenue did not fulfill the minimum frontage requirement of 100 feet in Bylaw § 2.1.1.17, because, in his view, the transfer of the sewer extension strip, five feet in width, had reduced the frontage of what previously had been the 27 Oak Avenue lot from 103 feet to 98 feet (both as measured along Oak Avenue), resulting in less than the 100 feet required; he also took the position that the new lot lines resulted in a reduced lot width of the 27 Oak Avenue property. For these reasons, the inspector determined that infectious invalidity existed, and that the New Lot could not receive the requested building permit.



18. On March 14, 2008, the plaintiffs appealed the denial of the building permit to the Board. The Board heard the plaintiffs' appeal on April 23, 2008 and May 14, 2008.

The Board upheld the Alternate Building Inspector's denial of the building permit for the plaintiffs' New Lot in the Decision. This appeal followed.

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Summary judgment is appropriate in those cases where no genuine issues exist as to material fact and where the moving party is entitled to judgment as a matter of law. *Community Nat'l Bank v. Dawes*, 369 Mass. 550 , 553 (1976); Mass. R. Civ. P. 56(c). The moving party must affirmatively show the absence of any triable issues or facts. *Pederson v. Time Inc.*, 404 Mass. 14 , 16-17 (1989). In deciding motions for summary judgment, the court may consider pleadings, depositions, answers to interrogatories, admissions on file, and affidavits. *Community Nat'l Bank v. Dawes*, 369 Mass. 550 , 553 (1976). The moving party can satisfy this burden by submitting affirmative evidence showing that the opposing party has no reasonable expectation of proving an essential element of its case or by negating an essential element of the opposing party's case. *Kourouvabilis v. General Motors Corp.*, 410 Mass. 706 , 716 (1991).

On an appeal under G. L. c.40A, §17, the judge hears the matter de novo and determines the validity of the board's decision on the basis of the facts found by the judge. *Gordon v. Zoning Bd. of Appeals of Lee*, 22 Mass. App. Ct. 343 , 348 (1986).

The defendants contend that, notwithstanding the de novo review ordinary in a case such as the one now before me, this matter is one in which the court addresses an issue of local discretion that requires familiarity with local conditions, and so the court ought review the decision of the zoning board with a good measure of deference. It is certainly true that, in appropriate cases, there is a meaningful place in appeals brought under G.L. 40A, §17 for a court to defer to local knowledge and decisionmaking. The local board of appeals brings to the matter an intimate understanding of the immediate circumstances, of local conditions, and of the background and purposes of the entire [zoning] by-law. . . . *Berkshire Power Development, Inc. v. Zoning Bd. of Appeals of Agawam*, 43 Mass.



App. Ct. 828 , 832 (1997) (review of special permit decision) (quoting *Fitzsimonds v. Board of Appeals of Chatham*, 21 Mass. App. Ct. 53 , 57 (1985))(same). The court gives deference to municipal zoning board decisions when the issue requires particularized local knowledge. *Murray v. Board of Appeals of Barnstable*, 22 Mass. App. Ct. 473 , 479 (1986)(same).

In the case at bar, the primary question for decision involves the interpretation of contested provisions of the municipal zoning law, particularly those which define and regulate minimum frontage and lot width. The task for the court is to read and interpret, as a legal matter, the meaning of these enactments, and, having determined their meaning, to apply the provisions to the facts presented by the Cronins' lots, as depicted on the relevant plan. This role is traditionally left to the courts to perform. The language of the Bylaw needs to be read and interpreted, and that is a familiar responsibility of the courts. This is not an instance in which the local Board has made its decision as a discretionary matter, as when a special permit granting authority, exercising the considerable discretion it has in such a case, decides to grant or refuse a special permit. In those kinds of judicial appeals, the court's review is highly deferential.

Here, the question is what the words of the Bylaw mean. The Bylaw is law, locally enacted. To be sure, the view of the zoning board on matters involving interpretation of the bylaw in the municipality is to be sought and considered with respect: at least in the first instance, the board's administrative view is valuable and is wanted. *Fitssimonds, supra*, 21 Mass. App. Ct. at 57. If, however, the local Board reads the disputed provisions of the Bylaw in a way which the court determines is at odds with their meaning, as a matter of legal interpretation, then the Board's view on the point must yield to the court's. Otherwise, the Board's interpretation of the law might supplant the meaning of it as enacted legislatively in the Town. If there is a reason to look to the local knowledge residing in the Board to aid in the interpretation or application of the meaning of the Bylaw, then some deference certainly is due the Board. Here, on the central questions--the method the Bylaw establishes for the measurement of the minimum frontage length and minimum lot width which corner lots must supply--there is not an obvious reason which especially calls for resort to particularized local knowledge which might reside in the Board in manner which calls for complete deference. Unless the meaning of



the Bylaw provisions is inscrutable as enacted, this is an issue of legal interpretation which focuses on the language of the Bylaw itself. □ Statutory interpretation presents a question of law for the Court. □ *Boston Police Patrolmen Ass'n. v. Boston*, 435 Mass. 718 , 719 (2002).

### Locating Frontage of a Corner Lot

The parties disagree how the Bylaw requires the court to measure the frontage of a corner lot, given their competing interpretation of the relevant words of the Bylaw. The plaintiffs contend that by measuring the length along only one right-of-way, the municipal defendants did not correctly apply the legislative definition of frontage to the Cronins' corner lot. Plaintiffs argue that the words of the Bylaw permit (indeed, require) but one interpretation: that the combined length of the boundary lines of their Lot 2 alongside both Turkey Hill Road and Oak Avenue are to be counted as frontage. Counted this way, the Cronins would have more than sufficient frontage for Lot 2 following the splitting off of the five-foot wide strip used to provide the route for the connecting sewer lines.

Bylaw § 2.1.1.17 does not include an additional method for measuring the frontage required of lots that are bounded by two streets, such as the corner lot at issue, Lot 2. To reinforce their contention that Lot 2's sidelines along both streets should be considered, in the aggregate, as frontage, the plaintiffs reach to other sections of the Bylaw, including those relating to driveways, to reinforce their argument. The Bylaw defines "driveway" as "[a] way for the passage of vehicles from the street used to qualify for required frontage to a garage or off-street parking and loading area." Bylaw § 2.1.1.12. The plaintiffs argue that Lot 2's pair of driveways, which enter it from both streets to reach the garage(s) on Lot 2, qualify both streets to be included in the frontage of that lot. The plaintiff looks to *Bosworth v. Whiteside* for the proposition that "in most instances, the frontage will be the place where traffic from the lot enters and exits from the street." *Bosworth v. Whiteside*, 16 LCR 686 , 689 (2008) (Misc. Case No. 340917) (Piper, J.).

Both the definition of driveway in the Bylaw, and the *Bosworth* opinion, describe activities that ordinarily take place across the frontage of a lot, rather than activities that per se designate particular lot lines as supplying frontage for zoning purposes. Entry and exit from a lot across a lot line do not necessarily define



frontage; traffic also may reach a property using a right-of-way easement over land of another, and that does not necessarily convert the line where the easement meets the lot as frontage for the purpose of measuring minimum required frontage of the lot. *Id.* The Bylaw definition of driveway requires that it connect to the street which supplies the lot's frontage, but frontage, as contemplated by the Bylaw, does not necessarily require a driveway.

Defendants argue that the Bylaw requires frontage to be measured along one street, indicating the intention to limit the measurement of frontage to one street. The examples listed in Bylaw § 2.1.1.17 (a)-(c), which all refer, in the singular, to a street or way, reinforce the legislative emphasis on using a single street. The defendants present alternative definitions of frontage from the Bylaws of other towns which use less restrictive language in defining frontage, such as any, all to demonstrate that the language used in the Bylaw intentionally restricts frontage to one street. Defendants' position on this is persuasive. It is not possible to ignore the clear meaning and thrust of the Bylaw, which limits the availability of frontage, to meet the required minimum length, to frontage along a single street. Bylaw § 2.1.1.17 limits frontage available to satisfy the minimum required to a length measured along a single street bordering the property, even if the property does border two intersecting rights-of-way.

In determining which lot lines should be designated front, side, or rear, courts have considered [t]he general location, the manner in which the particular lot and its adjacent lots have been laid out, the customs of surveyors in that respect, the uses to which the lot has been put as well as those to which it is proposed to be put, the practices of public officers charged with duties respecting it, and all the other pertinent facts touching the customs of the neighborhood. . . . *Bianco v. Ashley*, 284 Mass. 20 , 25 (1933). Analysis of the uncontested record facts supports the conclusion that Oak Avenue should be designated as the front line for the lot in question, Lot 2. The location of the building on this lot implicates Oak Avenue as the front lot line. Treating Turkey Hill Road as the front of Lot 2, and as the road supplying its frontage, would make the existing building violate front yard setback requirements. What is shown on the ANR Plan as Lot 2 previously had its frontage and its address on Turkey Hill Road, but an application for a residential building permit in 1984 modified the address to what it has been called since, 27 Oak



Street. This deliberate selection of Oak Avenue as the street constituting the front line of the parcel was necessary for the then owners to construct the house now on Lot 2 in its present location without violating the existing setback requirements for front and side yards. Plaintiffs have not shown any use of the property that is inconsistent with classifying Oak Avenue as the street constituting the parcel's front line. Lot 2, 27 Oak Avenue, has its frontage on Oak Avenue. Lot 2 does not have frontage on Turkey Hill Road.

### Measuring the Frontage of a Corner Lot

The parties disagree about the proper measurement of the lot's frontage on Oak Avenue. Bylaw § 2.1.1.17 states that frontage is the linear extent of the line: measured along a street right-of-way from the intersection of one side lot line to the intersection of the other side of the same lot. . . . The ANR Plan shows that Oak Avenue and Turkey Hill Road do not meet at the point of an angle, but rather along a rounded corner. According to the ANR Plan, the outermost edge of this curve at the southeast of 27 Oak Avenue, at the two streets' intersection, follows along a portion of a circle which has a radius of twenty feet for a length of 31.42 feet from the first point at which the road bends, to the end of the curve. Plaintiffs, as an alternative position, assert that some portion of this distance should be included in the measured frontage for 27 Oak Avenue. The defendants read the Bylaw to exclude any of the curving distance at the meeting of the two streets from the measure of frontage, asserting that the Bylaw requires a linear frontage measurement, which they say definitionally excludes curves.

The Bylaw does not define or otherwise helpfully address what is meant by "intersection." The court will look to the plain meaning of the word intersection as a place where two or more lines cross or come together. When two lines cross, there is one single point where the lines intersect. The Bylaw definition of frontage designates two points as the starting and ending point of the measured frontage. These points, included in the "extent of a line" measuring frontage, are described as "the intersection of one side lot line to the intersection of the other side of the same lot." Bylaw § 2.1.1.17. The Bylaw does not include provisions that explicitly exclude curves from inclusion in frontage. *Id.* The Bylaw does not provide alternate methods for designating the start- or end-points for measuring frontage if the intersection of a side lot line and the frontage occurs on a curved road. It defies



logic and ordinary experience to say that the measurement required to determine adequacy of frontage throughout the Town may only be made, under the words of this Bylaw, where the line along the street right-of-way runs entirely straight.

The Board relies on a narrow reading of the word "linear" in the Bylaw to have the court limit measured frontage to a single straight line. Aside from the presence of "linear" in the definition (a word which simply restates the noun "line") the Bylaw does not explicitly restrict the measurement to only straight lines, and the defendants did not advance any satisfying explanation, supported by the Bylaw, why such a narrow reading would be called for by the Bylaw's words. In ordinary usage, lines may curve or bend. In the real world, lot lines certainly do. Dictionary definitions show that a "line," in common usage, includes, rather than excludes, lines with curvature. See, e.g., *The American Heritage College Dictionary*, fourth ed., which defines a line as, among many other things: "[a] degree or circle of longitude or latitude drawn on a map or globe..., [t]he equator, [a] border or boundary...[a] demarcation... [a] contour or outline..., [a] mark used to define a shape or represent a contour...."

Nothing in the Bylaw shakes the conclusion that frontage, as defined, cannot be supplied by a line which is to some degree less than unbending. To read the Bylaw definition to apply only to entirely straight lines would leave many lots, with even the most imperceptible of gentle curves in the lines where the lots meet the street, with no guiding method for measuring and satisfying the frontage requirement of the law. That cannot be the reading intended legislatively. The defendants' insistence on counting as frontage nothing less than a straight line would, if accepted by the court, lead to a strained, if not absurd, result in many instances. A lot which had only a tiny straight stretch to its run along the street, and a gentle curve of great length along the rest, would fail to comply with the minimum frontage requirement. The Bylaw clearly states that frontage must start and end at the intersections of the side lot lines with the front line of a property. The Bylaw assumes, and apparently requires, that all lots have a front lot line and side lot lines. The definition emphasizes the importance of the two end-points that establish the limits of the line which supplies frontage, something which takes place whether the frontage is in whole or in part curved, on the one hand, or entirely straight, on the other.



When interpreting statutes, each word is to be given its ordinary meaning without overemphasizing its effect upon the other terms appearing in the statute, so that the enactment considered as a whole shall constitute a consistent and harmonious statutory provision. *Murphy v. Planning Bd. of Hopkinton*, 70 Mass. App. Ct. 385, 394 (2007) quoting *Commonwealth v. Woods Hole, Martha's Vineyard & Nantucket S.S. Auth.*, 352 Mass. 617, 618 (1967). Giving "linear" its plain meaning within the context of the entire statute requires that the frontage be measured in a way that includes both of the intersections of the front and side lot lines.

The Bylaw defines a "corner lot" as "any lot abutting on two (2) or more streets that are intersecting." Bylaw § 2.1.1.28(e). Lot 2 abuts on two streets, Oak Avenue and Turkey Hill Road. They intersect at, or along, the southeast corner of Lot 2. With Oak Avenue supplying the front lot line, Turkey Hill Road supplies Lot 2's side lot line, and the intersection of those two streets establishes a boundary point limiting the extent of 27 Oak Avenue's frontage. That point lies on the eastern end of the line of frontage, where it "intersects" the southern end of the side line along Turkey Hill Road. The Board's proffered interpretation would exclude this point, and would run counter to the Bylaw definition of "corner lot" as including the intersection of the Oak Avenue frontage line with the Turkey Hill side line. This approach also would exclude the entire thirty-one feet of curved lot line that borders, and forms the connection along and between the two (intersecting) streets. The Board's construction appears to ignore the reality that these two streets do, in a plain and obvious way, "intersect," both on the plan and on the ground.

The purpose of requiring "linear" measurements was not to exclude curved edges of a lot from qualifying as frontage, but to show how to measure to see if there exist dimensionally deficient lots. Lots must be measured using a consistent rubric. Measuring from one intersection of side lot line and front line to the other intersection of the same front line with the other side line, whether the frontage is curved or straight, provides an accurate way to calculate the front dimension. Linear measurement of this sort allows the Town to ensure that lots meet consistent dimensional requirements.

The Board asserts that the measured frontage of a lot can not include any distance measured which lies within the street. This is correct, given the words of §



2.1.1.28. Its subpart (d) says: "A building lot shall not include any part of the street." As a result, one cannot measure frontage along Oak Avenue all the way to the meeting point of the extensions of the straight lines of the side and front lines of Lot 2; to do so would position the point of their "intersection" in the middle of the traveled way. Said another way, the Bylaw does not countenance measurement of frontage which extends along the straight 98.00 foot long run of the frontage line, and then projects further in a straight line on the same course to the point of tangency with the rounded corner of Lot 2.

The Bylaw, in § 5.2.5, "Corner Clearance," dealing with the need to maintain sight lines where two streets come together, mandates that the area, within the streets and on the lot, formed by these extensions, for a distance of fifty feet in both directions, be kept open. This section requires that measurements for the clearing should be taken from a "point of intersection, or in the case of a rounded corner, the point of intersection of their tangents. . . ." This section projects the side and front lines to an intersection within the street(s). This point, where these two straight lines come together, cannot, as already said, be the measuring point for the eastern terminus of the frontage line along the Oak Avenue side of Lot 2, for it would encompass, as frontage, a line that in part ran into the traveled way.

Instead, the Bylaw calls for the intersection of side and front lot lines to be located on the curvature of the corner of Lot 2, along the line where the plaintiffs' privately owned land meets the layout of the streets used by the public for travel. In this way, the counting does not pick up any phantom length which lies in the street, something the Bylaw's definition forbids. What the Bylaw calls for, taking into account all of its relevant provisions and its purpose, in the case of a lot, like Lot 2, which lies where two streets come together along a small curve, is that the point which ends the frontage be located midway along that curve. The point which forms the eastern end of Lot 2's frontage lies on the curved line halfway along its 31.42 foot length. The half of the curve heading towards Oak Avenue is part of the frontage of the lot, and the other half, which heads up Turkey Hill Road, is the beginning segment of the sideline of Lot 2. This is the proper reading of the Bylaw's frontage requirement. This reading honors the Bylaw's insistence that frontage be measured along a single street right-of-way; the frontage line ends and the side street's line begins at this single point, so no more than one street



provides the frontage. This reading leaves Lot 2 with a frontage of 113.71 feet, well more than the 100 feet required.

At argument, the court considered with counsel the possibility of another approach, namely drawing a straight line to connect, across Lot 2, the two termini of the straight lines alongside Oak Avenue and Turkey Hill Road, and then dividing that connecting line at its midpoint, assigning half of the connecting line's length to the frontage and half to the side line along Turkey Hill Avenue. This alternative is not consistent with the definitions and purpose of the Bylaw, because it measures along an artificially created line that runs within the interior of the Lot, and so the court declines to read the Bylaw in this fashion. But even this method would appear plainly to supply more than enough frontage to make up the two feet by which the 98 foot straight line along Oak Avenue falls short of 100 feet.

On this summary judgment record, as a matter of law, the court rules that 27 Oak Avenue's total frontage measures 113.71 feet, and satisfies the Bylaw's dimensional requirement for frontage. The defendants should not have determined that Lot 2 lacks sufficient frontage.

#### Measuring the Width of Lots Bordered by Multiple Rights-of-Way

That is not the end of the court's inquiry, however. The defendants assigned a separate reason for the denial of the requested building permit for Lot 1B: that Lot 2, improved with the residential structure, lacks the lot width required by the Bylaw.

The Board upheld the inspector's denial of the Cronins' building permit application on the alternative grounds that 27 Oak Avenue did not comply with the minimum width requirements as stated in Bylaw §§ 2.1.1.28 and 5.1.2.1. These two sections require a minimum lot width of 175 feet measured between the side lot lines, and passing through the nearest point of the primary building. *Id.* "[N]o building shall be constructed on a lot having ... less width than the Required Width Through Building, specified in the following table [175 feet]." Bylaw § 5.2.1.1. "Lot width is the minimum distance between the side lot lines of the lot measured on any line parallel to a line joining the intersection of the side lot line with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way." Bylaw § 2.1.1.28(b).



This definition applies without much parsing or thought where there is a four-sided lot that has frontage on a single right-of-way, and only two points where the two side lot lines meet the only right-of-way. The Bylaw must have meaning, beyond this obvious example, in cases like that now before the court; the Bylaw must be interpreted as well in cases in which the building lot bounds on two rights-of-way, as where there is a corner lot, or even when the lot is bordered by two parallel streets.

The lot now in question, 27 Oak Avenue, is an irregularly shaped corner lot bordered by two rights-of-ways, and has multiple lot lines, several of which do not run alongside either of the streets, and which might thus qualify as side lot lines. Lot 2, we know, has its frontage along Oak Avenue. It cannot have more than one frontage, and plaintiffs do not contend, for purposes of understanding the lot width requirements, that it does. Lot 2 also has two lines which intersect with the frontage line, as determined by the court: the line running along Turkey Hill Road to the midpoint of the curve where Turkey Hill Road and Oak Avenue meet is the first. The second line is that which extends down to Oak Avenue and is the eastern sideline of the five-foot strip through which the sewer connection lines run. These two lines, at a minimum, are side lines of Lot 2.

Plaintiff come up short, however, when they try to show how the distances between these sidelines should be measured to prove Lot 2's compliance with the Bylaw's lot width regulation. Plaintiffs offer alternative interpretations of the Bylaw's lot width requirement, and their claimed interpretations are displayed on a marked plan in the record, prepared by surveyor Stanley R. Dillis, a copy of which accompanies this Decision as an exhibit. This plan illustrates plaintiffs' contention that Lot 2 meets the "minimum lot width through building requirement" because it is possible to draw straight lines, shown on the plan, through or touching the Lot 2 dwelling which exceed 175 feet in length.

Plaintiffs' argument in this respect fails as a matter of law, given the obvious layout of Lot 2, and the words of the relevant Bylaw provisions. The plan they offer proves the wrong point. First and foremost in the lot width definition is that it is the "minimum distance between the side lot lines of the lot" (emphasis supplied). It is on this threshold requirement that the plaintiffs' argument founders. The interpretation proffered by the plaintiffs, depicted in the Dillis exhibit, may well



show a straight line running from one side line to another side line, a straight line which is long enough to meet the 175 minimum applicable to Lot 2 under the Bylaw. The difficulty is that the distance of this line, just a fraction of an inch above the 175 foot required, is not the minimum distance connecting the side lot lines of Lot 2.

Lot 2, as already established, has as one of its side lines the line running along the side of Turkey Hill Road, from Lot 1B (where it meets Turkey Hill Road) southerly to the midpoint of the curve at the place where Turkey Hill Road and Oak Avenue come together. This boundary of Lot 2 is assuredly one of its side lines. There may be others, but this sideline has an intersection with a "right-of-way," Oak Avenue, at the midpoint of the curve. That intersection is ignored in the plaintiffs' rendition of how Lot 2 might comply with the lot width regulation. The plaintiffs' proffered lot width exhibit does not place the parallel lines at the correct alignment. The lines must be drawn to show not the maximum distance between the side lot lines, as the exhibit strains to do, but rather the minimum distance. The minimum distance between the side lot lines lies in the front yard of Lot 2, relative to the building on it, which faces and has its address on Oak Avenue. The minimum distance between the side lot lines of Lot 2 is the length along a line which is the full extension of the line on the exhibit, parallel to Oak Avenue, marked on the exhibit as "40' zoning setback." The length of this line is not given on the exhibit, but there can be no dispute that it is materially shorter than the line proposed by plaintiffs, which only barely measures 175 feet. There can be no doubt that the minimum distance measured between the side lot lines on a line parallel to Oak Avenue, fails to meet the 175 foot minimum the Bylaw mandates.

The correct lot width measurement is not the one which follows from the effort by plaintiffs to find any one possible line with a length of 175 feet which will somehow fit between two points along any two lines which might constitute side lines. This attempt by plaintiffs flies in the face of the Bylaw, which imposes a minimum lot width. Plaintiffs struggle to maximize the line they use to demonstrate compliance, but in doing so they ignore the fundamental purpose of this dimensional requirement, which is that the lot width not be any less than the minimum distance established in the Bylaw.



A line certainly exists which runs between the midpoint on the curve (where the Turkey Hill Road sideline intersects with Oak Avenue) and the westernmost point on the frontage line along Oak Avenue, at the five foot wide extension of Lot 1B (where the western sideline of Lot 2 intersects with Oak Avenue). Any and all lines drawn parallel to this one, and lying between it and the nearest point of the building on Lot 2, surely cannot measure anywhere close to the necessary 175 feet. (The minimum lot width measurement must be taken along a line--the shortest line--that lies "parallel to a line joining the intersection of the side lot lines with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way line.") This is why Lot 2 as now configured fails to meet the minimum lot width requirement--because the width of the lot in what is, by any measure, the front yard of Lot 2 comes up very much short of 175 feet.

From this conclusion, it follows that the inspector and the Board correctly determined that the lot width of Lot 2 violates the Bylaw. The Town appropriately concedes that, prior to the reconfiguration of the property involved, to benefit and provide the sewer connection leg to the New Lot, 27 Oak Avenue's width, though less than required under the Bylaw, had been protected as a matter of prior nonconformity by G. L. c. 40A, § 6. See *Rourke v. Rothman*, 448 Mass. 190, 197 (2007) quoting *Adamowicz v. Ipswich*, 395 Mass. 757, 763 (1985). The defendants correctly assert, however, that the conveyance from the developed Lot 2 to the vacant Lot 1B of the five-foot sewer extension reduced the width of Lot 2, and increased 27 Oak Avenue's noncompliance with the Town's dimensional zoning regulations. And this leads to a situation where, in a manner prohibited by the Bylaw and by general principles of zoning, a previously nonconforming lot improved with a building has been changed in a way that would makes it not compliant with the Bylaw, and which, as a matter of objective measurement of the width of the lot, increases the lot's non-conformance. See Bylaw § 5.1.6.1: "No lot on which a building is located... shall be reduced or changed in size or shape so that the building or lot fails to comply with lot... width... provisions of this Bylaw, or, if such building or lot already fails to comply with said provisions, such reduction or change would bring about a greater degree of non-compliance with said provisions."



This means, further, that the defendants were within their rights to decide that Lot 1B, though not itself the locus of the lot width deficiency, was not eligible for a building permit for new construction, because Lot 1B was made up of land formerly part of Lot 2, and the land taken from Lot 2 caused it to become less compliant with the lot width requirement of the Bylaw. See *Alley v. Building Inspector of Danvers*, 354 Mass. 6, 7 (1968) (creating a conforming lot by depriving another lot of a characteristic required in a Bylaw was held improper).

Plaintiffs argued this appeal on the basis that Lot 2 as now constituted complies with the relevant dimensional requirements of the Bylaw. On the record submitted, without any dispute of material fact and as matter of law, the court rules that that is not the case. Plaintiffs did not present to the Board, nor to this court, any argument that, notwithstanding the reconfiguration of the lots involved, Lot 2, while deficient under current zoning dimensional regulation, may still be able to receive some protection based on its prior nonconformity, including by way of a special permit or finding under the provisions of Article 7 of the Bylaw or under Section 6 of G.L. c. 40A. That argument could not proceed on this case as pleaded, and certainly not on the record now before the court, which does not show plaintiffs made any request for a special permit of this sort. It is not at all clear that any such special permit could even be available under any circumstances, given the language of Article 7 and Section 6, but this Decision by the court neither addresses or forecloses any such possibility.

After argument, review of the record assembled and submitted pursuant to Mass. R. Civ. P. 56 and Land Court Rule 4, and consideration of the written submissions of the parties, the court determines that the plaintiffs have failed to show that 27 Oak Avenue complies with the Bylaw's dimensional requirements as to lot width. The court rules that the Board correctly denied the plaintiffs' administrative appeal from the denial of their building permit application for Lot 1B. Defendants' motion for summary judgment is GRANTED and plaintiffs' motion for summary judgment is DENIED. Judgment will enter upholding the Decision of the Board.

Judgment accordingly.

By the court. Piper, J.

Dated: October 7, 2009.





**Proposed Hotel Development  
1207-1211 Massachusetts Avenue  
Traffic Impact and Access Study**

Arlington, Massachusetts

June 2020

**Prepared for:**

1211 Massachusetts Avenue Realty Trust

1122 Massachusetts Avenue

Arlington, Massachusetts 02472

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803 Summer Street

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## Contents

Executive Summary .....	1
1 Introduction.....	2
2 Existing Conditions.....	3
2.1. Study Area .....	3
2.2. Existing Roadway Conditions.....	3
2.3. Existing Intersection Conditions .....	3
2.4. Existing Traffic Conditions.....	8
2.5. Motor Vehicle Crash Data .....	10
2.6. Sight Distance Evaluation .....	11
2.7. Public Transportation .....	12
3 Future Conditions.....	13
3.1. Background Traffic Growth.....	13
3.2. Site Access and Parking.....	15
3.3. Trip Generation .....	15
3.4. Mode Share .....	16
3.5. Trip Distribution .....	17
4 Traffic Operations Analysis .....	21
5 Summary and Conclusions.....	25



## List of Figures

Figure 1	Project Location and Study Area .....	4
Figure 2	Existing Roadway and Intersection Configuration .....	7
Figure 3	2020 Existing Conditions Peak Hour Traffic Volumes .....	9
Figure 4	Location of Motor Vehicle Crashes in Study Area.....	10
Figure 5	2025 No-Build Conditions Peak Hour Traffic Volumes.....	14
Figure 6	Trip Distribution Map .....	18
Figure 7	Peak Hour Project Generated Traffic Volumes .....	19
Figure 8	2025 Build Conditions Peak Hour Traffic Volumes.....	20

## List of Tables

Table 1	Automatic Traffic Recorder (ATR) Data Summary .....	8
Table 2	Motor Vehicle Crash Data Summary .....	11
Table 3	Trip Generation Summary .....	15
Table 4	Level of Service Designations .....	21
Table 5	Traffic Operations Analysis Summary – Weekday Morning Peak Hour.....	22
Table 6	Traffic Operations Analysis Summary – Weekday Evening Peak Hour .....	23



## Executive Summary

BSC Group (BSC) has prepared this Traffic Impact and Access Study (TIAS) to evaluate the potential traffic impacts associated with the proposed construction of a 50-key hotel and ancillary restaurant space to be located at 1207 – 1211 Massachusetts Avenue in Arlington, Massachusetts. The existing site contains a 2,500 square foot (sf) Disabled American Veterans (DAV) building, a used car dealership, an automobile service station, and a three-bedroom apartment, which contains 3,031 sf of space. There are currently two curb cuts along Massachusetts Avenue and one curb cut along Clark Street that provide access to the existing uses on the site. The DAV building recently closed and operated similarly to a restaurant. All uses on the existing site will be demolished as part of the Project.

Vehicular access will be provided by a valet operated pick-up/drop-off area with two curb cuts along Massachusetts Avenue. Access to the parking area will be along the east side of Clark Street, on the north side of the site. A total of 24 parking spaces will be provided behind the hotel to serve the future guests and visitors.

The site is in proximity to numerous transit opportunities, including the Massachusetts Bay Transportation Authority (MBTA) #77 and #79 bus routes and is located within a few miles of the MBTA Red Line at Alewife Station.

This study includes a review of existing traffic and roadway conditions in the vicinity of the project site, as well as a review of the motor vehicle crash history at study area intersections. This report identifies background traffic growth for study area roadways, estimates additional traffic generated by the industrial park, and evaluates potential traffic impacts due to Project-generated traffic. The study shows the following:

- The proposed Project is expected to generate approximately 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday afternoon peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.
- Compared to the No-Build condition, the study area intersections serving the Project are expected to operate at the same LOS with the addition of the expected Project-generated traffic. No additional mitigation or capacity enhancements are necessary at the study intersections or on the surrounding transportation infrastructure to accommodate the Project.
- Both required stopping sight distance and recommended intersection sight distances are met at both driveway locations.
- There are safety issues at the intersection of Massachusetts Avenue at Appleton Street and Appleton Place based on the MassDOT crash data. A fatal collision involving a bicyclist recently occurred at this location.

In conclusion, it is the opinion of BSC Group that the vehicle trips generated by the Project can be accommodated at the study area intersections and roadways without the need for additional mitigation. Further investigation into the safety issues throughout the study area should be considered by the Town of Arlington.



## 1 Introduction

BSC Group (BSC) has prepared this Traffic Impact and Access Study (TIAS) to evaluate the potential traffic impacts associated with the proposed construction of a 50-key hotel with ancillary restaurant uses on the first floor to be located at 1207-1211 Massachusetts Avenue in Arlington, Massachusetts.

This study includes a review of existing traffic and roadway conditions in the vicinity of the project site and the motor vehicle crash history at study area intersections. This report identifies background traffic growth for study area roadways, estimates additional traffic generated by the Project, and evaluates potential traffic impacts due to Project-generated traffic.

The Project will consist of the construction of a new 50-room hotel and restaurant at 1211 Massachusetts Avenue. The Project site is located along the north side of Massachusetts Avenue and is adjacent to Clark Street on the west. Vehicular access will be provided by a valet operated pick-up/drop-off area with two curb cuts along Massachusetts Avenue. Access to the parking area will be along the east side of Clark Street, on the north side of the site. A total of 24 parking spaces will be provided behind the hotel to serve the future guests and visitors.

The existing site consists of both 1207 and 1211 Massachusetts Avenue and contains a 2,500 square foot (sf) Disabled American Veterans (DAV) building, a used car dealership, an automobile service station, and a three-bedroom apartment, which contains 3,031 sf. There are currently two curb cuts along Massachusetts Avenue and one curb cut along Clark Street that provide access to the existing uses on the site. The DAV building recently closed and operated similarly to a restaurant. All uses on the existing site will be demolished as part of the Project.



## 2 Existing Conditions

The study area selected for the Project includes the nearby roadways and intersections expected to be impacted by the development. This section describes the study area roadway and intersections.

The study area for the traffic impact analysis includes the following intersections:

- Massachusetts Avenue at Lowell Street
- Massachusetts Avenue at Clark Street
- Massachusetts Avenue at Appleton Street and Appleton Place
- Massachusetts Avenue at Forest Street and Burton Street

The location of the Project in relation to the surrounding roadway network is shown in Figure 1.

**Massachusetts Avenue** is a two-lane arterial roadway under the Town of Arlington jurisdiction that travels in an east-west direction between the Town of Lexington in the west and the City of Cambridge in the east. Throughout the study area, Massachusetts Avenue is designated as State Route 2A. Massachusetts Avenue consists of a single travel lane and a parking lane in each direction through the study area. Bicycle sharrows are also provided in each direction through the study area. The directions of travel are separated by a double-yellow centerline. Land uses along Massachusetts Avenue primarily consist of commercial uses. Nearby side streets provide access to the adjacent residential neighborhoods on the north and south sides of the corridor. Sidewalks are provided along both sides of the roadway.

The following describes the geometric conditions and traffic control at the study area intersections. Figure 2 shows the lane geometry and traffic control at the study area intersections.

### Massachusetts Avenue at Lowell Street

Lowell Street intersects Massachusetts Avenue from the north to form this three-legged, unsignalized intersection west of the Project site. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Lowell Street southbound approach intersects Massachusetts Avenue at a severe skewed angle and consists of a single travel lane under STOP-sign control. A crosswalk is provided across the Lowell Street approach. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.





Figure 1  
 Project Location & Study Area  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



Massachusetts Avenue at Clark Street

Clark Street intersects Massachusetts Avenue from the north to form this three-legged, unsignalized intersection adjacent to the west side of the Project site. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Clark Street southbound approach consists of a single travel lane under STOP-sign control. A crosswalk is provided across the Clark Street approach. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of the Project site, commercial and residential properties.



*Massachusetts Avenue at Lowell Street and Clark Street*

Massachusetts Avenue at Appleton Street, Appleton Place, and a Private Driveway

Appleton Street and Appleton Place intersect Massachusetts Avenue from the south and a private driveway intersects Massachusetts Avenue from the north to form this five-legged intersection under STOP control. The intersection is controlled by the flashing signal and a STOP-sign along the Appleton Place approach. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. MBTA bus stops are also located along Massachusetts Avenue at the intersection. The Appleton Street northbound approach consists of a single travel lane and is controlled by a red signal indication. The Appleton Place northbound approach consists of a single travel lane and is under STOP-sign control. The driveway southbound approach also consists of a



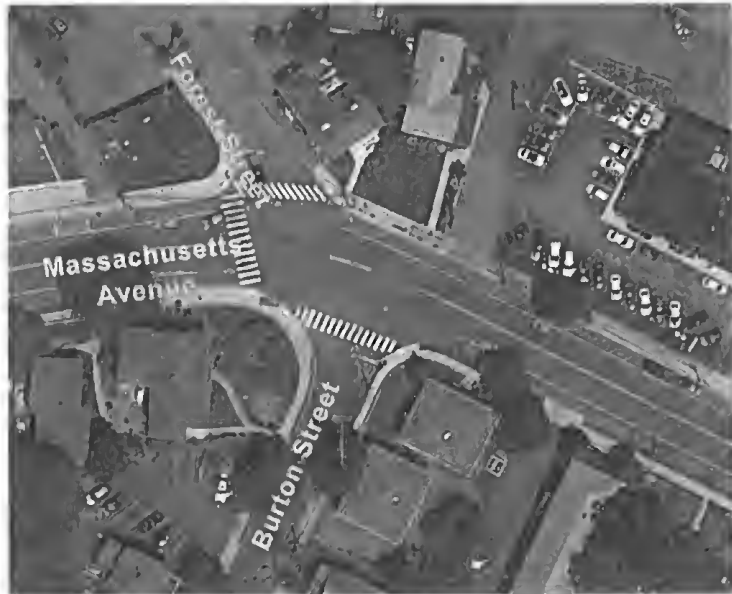
*Massachusetts Avenue at Appleton Street, Appleton Place, and a Driveway*



single travel lane under STOP control, although a STOP-sign is not provided. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.

Massachusetts Avenue at Forest Street, Burton Street, and a Private Driveway

Forest Street and a private driveway intersect Massachusetts Avenue from the north and Burton Street intersects Massachusetts Avenue from the south to form this five-legged intersection under STOP-sign control. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Forest Street and driveway southbound approaches and the Burton Street northbound approach all consist of single travel lanes and are under STOP-sign control. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.



*Massachusetts Avenue at Forest Street, Burton Street, and a Driveway*



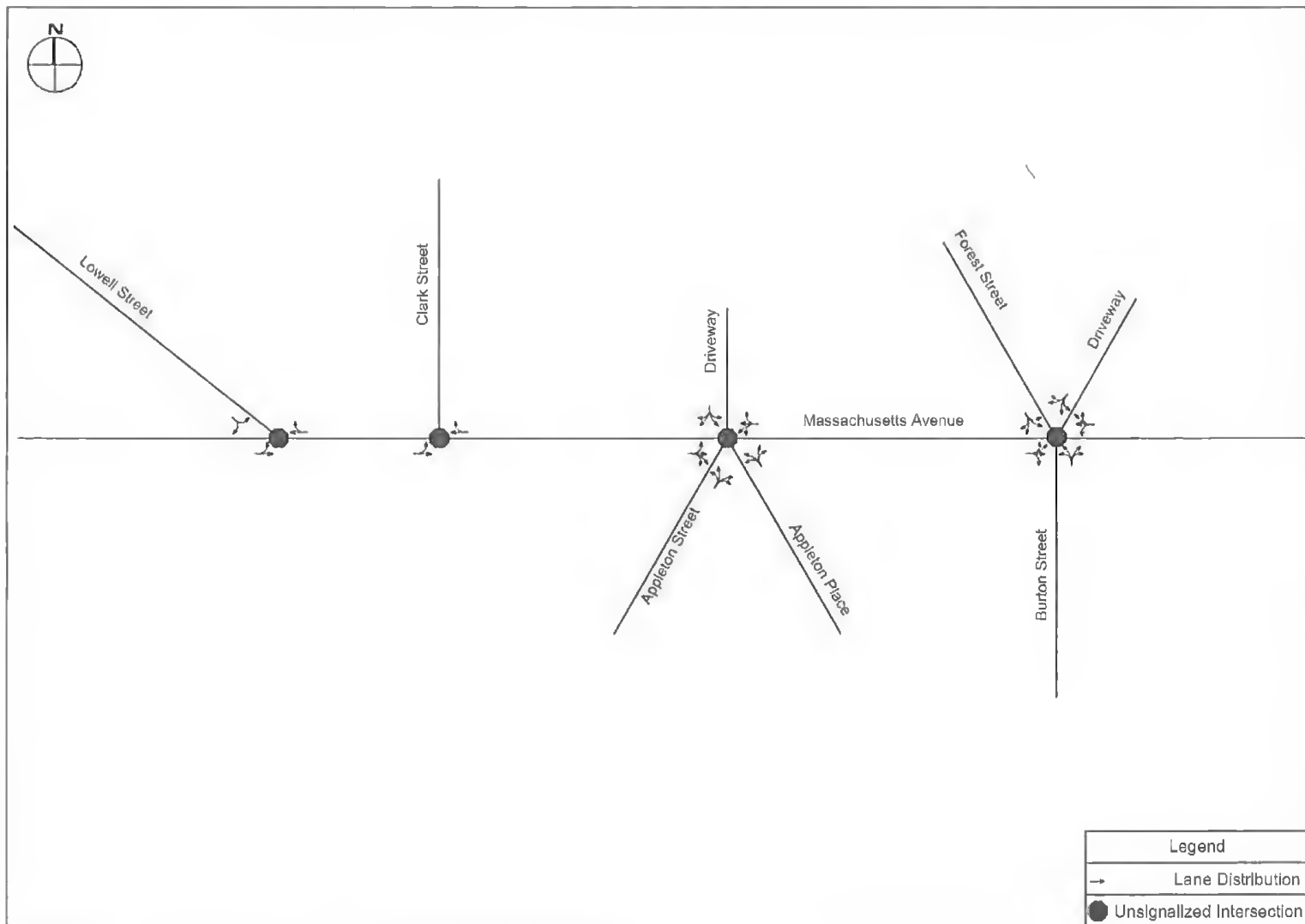


Figure 2  
Existing Conditions Geometry and Traffic Control  
1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
Arlington, MA



Existing traffic data was collected to establish a baseline condition for the analysis of the Project's traffic impacts. Manual turning movement counts (TMCs) were obtained from a traffic study for the nearby proposed Mirak Mill Apartments project for two study area intersections (Massachusetts at Appleton Street/Appleton Place and Massachusetts Avenue at Forest Street/Burton Street) for the weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak periods. Due to issues with COVID-19 related traffic fluctuations, new counts could not be conducted at the two remaining intersections. Data was obtained from a traffic study conducted for a residential development located at 19R Park Avenue to estimate the traffic volumes along Lowell Street. Traffic volumes along Clark Street were also estimated based on data provided in the Mirak Mill Apartments traffic study. Automatic traffic recorder (ATRs) data was also obtained from the Mirak Mill Apartments traffic study to estimate daily traffic volumes along Massachusetts Avenue in the vicinity of the Project site.

A factor was applied to the February 2020 TMCs to account for seasonal fluctuations in traffic flow. Based on MassDOT data, traffic volumes along urban principal arterial roadways similar to Massachusetts Avenue are three percent lower in February than during an average month. Traffic volumes on local roadways and collector streets, traffic volumes in February represent average month conditions. To account for seasonal fluctuation and to represent average month conditions, the February TMCs were adjusted upward by 3 percent. The through volumes along Massachusetts Avenue were balanced between the intersections with Appleton Street and Appleton Place, Clark Street, and Lowell Street.

Peak hour traffic volumes are heaviest along Massachusetts Avenue during the peak hours, as this is a major commercial and commuter corridor that provides access between Lexington in the west and Cambridge, Somerville, and Boston in the east. The TMCs are shown in Figure 3 and the ATR data is presented in Table 1. The detailed traffic data is provided in the Appendix.

**Table 1 Automatic Traffic Recorder (ATR) Data Summary**

	Massachusetts Avenue, east of Burton Street
<b>Weekday Daily Volume<sup>1</sup></b>	13,127
<b>Weekday Morning Peak Hour</b>	
Volume <sup>2</sup>	1,052
K Factor <sup>3</sup>	8%
Directional Flow <sup>4</sup>	53% WB
<b>Weekday Evening Peak Hour</b>	
Volume	1,051
K Factor	8%
Directional Flow	57% EB

- 1 vehicles per day
- 2 vehicles per hour
- 3 percentage of daily trips that occur during the peak hour
- 4 percentage of peak hour traffic by direction



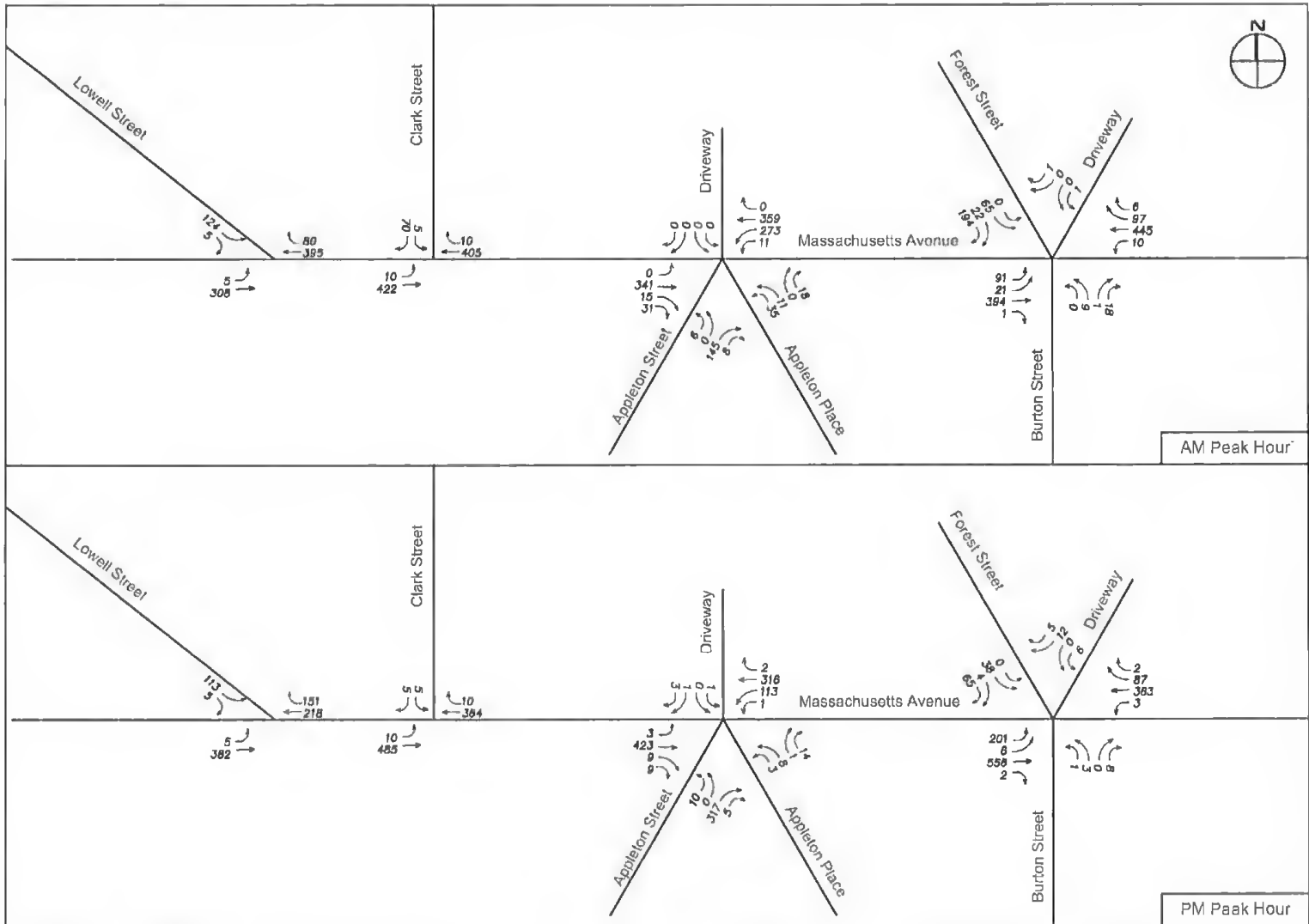


Figure 3  
 2020 Existing Conditions Peak Hour Traffic Volumes  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



### 2.5. Motor Vehicle Crash Data

Motor vehicle crash data were obtained for the Project's study area from the MassDOT crash database for the most recent three-year period for which data is available (2017-2019). The data is used to identify correctable safety issues and crash trends. The current MassDOT average crash rate for unsignalized intersections in District 4 (the MassDOT district in which the Project is located) is 0.57 crashes per million entering vehicles (mev). The average crash rate for signalized intersections in District 4 is 0.73 crashes per mev. Figure 4 displays the location of the motor vehicle crashes (shown as orange circles) and Table 2 presents the motor vehicle crash data for the years 2017-2019.

**Figure 4** Location of Motor Vehicle Crashes in Study Area



Based on a review of the motor vehicle crash history at the study area intersections, the crash rates at the intersections of Massachusetts Avenue at Lowell Street and Massachusetts Avenue at Appleton Street and Appleton Place exceed the MassDOT District 4 averages for unsignalized intersections.

Recently, the intersection of Massachusetts Avenue at Appleton Street and Appleton Place experienced a fatal collision involving a bicyclist. While the details of this crash were not available at the time of this study, it is evident that this location has significant safety issues related to bicyclist and motorist conflicts. The awkward geometry, on-street bicycle facilities, flashing signal equipment, and solar glare during the morning and evening may be major factors in the existing safety issues at this location.



**Table 2 Motor Vehicle Crash Data Summary**

	Mass. Avenue/ Lowell Street	Mass. Avenue/ Clark Street	Mass. Avenue/ Appleton Street/ Appleton Place	Mass. Avenue/ Forest Street/ Burton Street
<b>Total Crashes</b>	<b>7</b>	<b>1</b>	<b>10</b>	<b>10</b>
<i><b>Year</b></i>				
2017	2	1	4	2
2018	3	0	0	0
2019	2	0	6	8
<i><b>Severity</b></i>				
Property Damage	5	0	9	7
Injury	1	1	0	1
Fatality	0	0	0	0
Unknown	1	0	1	2
<i><b>Collision Type</b></i>				
Angle	1	0	5	4
Rear End	2	0	5	5
Sideswipe	3	0	0	0
Single Vehicle Crash	1	0	0	0
Head-on	0	1	0	0
Other	0	0	0	1
<i><b>Time</b></i>				
Peak Hours	0	0	2	3
Off-Peak Hours	7	1	8	7
<i><b>Road Conditions</b></i>				
Dry	7	1	5	7
Wet/Ice/Snow	0	0	5	3
Other	0	0	0	0
Average Per Year	2.3	0.3	3.3	3.3
Intersection Type	Unsignalized	Unsignalized	Unsignalized	Unsignalized
Calculated Crash Rate <sup>1</sup>	0.59	0.09	0.60	0.54

<sup>1</sup> Crashes per million entering vehicles, as defined by the MassDOT Highway Division

### 2.3.3 Stopping Sight Distance

Sight distance measurements and calculations were conducted at the location of the proposed site driveways along Massachusetts Avenue. An analysis of stopping sight distance (SSD) and intersection sight distance (ISD) confirms that adequate sight distance is provided along Massachusetts Avenue to allow safe maneuvers to and from the site driveways.

Stopping sight distance is the distance required for a vehicle to perceive an object in the roadway, decelerate, and come to a stop before reaching the object. Intersection sight distance is the distance between an approaching vehicle and a side street or driveway to allow a vehicle to safely maneuver through the intersection from the side street or driveway. SSD is a requirement along all roadways to ensure safety is maintained along the length of a given roadway. ISD is a recommended guideline to ensure vehicles traveling through an intersection from a stop condition can easily and comfortably make a turning or through maneuver.



The available sight distance at the driveways exceeds 600 feet in both directions. On-street parking is allowed along this segment of Massachusetts Avenue and parked vehicles may occasionally limit lines of sight from back of the sidewalk at the driveway locations. Vehicular speed data was not collected along Massachusetts Avenue. A design speed of 40 mph was used to calculate sight distance requirements. The required SSD based on a 40 mph approach speed is 305 feet and the recommended ISD based on a 40 mph approach speed is 445 feet.

Based on this evaluation, there is sufficient sight distance to accommodate both SSD and ISD at the proposed site driveways. The driveway has clear lines of sight to the signalized intersection to the east and will operate with acceptable operations based on these lines of sight.

## **2.7. Public Transportation**

Public transportation services are located in proximity to the Project site, offering guests and employees of the future site non-vehicular options for transportation. The Massachusetts Bay Transportation Authority (MBTA) operates several bus lines that travel near the Project site. MBTA bus routes 77 and 79 travel along Massachusetts Avenue between Arlington Heights and Alewife and Harvard Stations, providing connections to the Red Line branch of the MBTA's subway system. MBTA bus route 62 also travels near the Project site along Park Avenue and providing service between Bedford and Alewife Station. The closest bus stops are located along Massachusetts Avenue at the intersection of Appleton Street, east of the site.



### 3 Future Conditions

Traffic volumes in the study area were projected to the year 2025, which reflects a five-year traffic planning horizon from the year of this study. The future traffic volumes consider both general traffic growth trends in the area and new traffic expected to be generated by major planned and proposed projects in the vicinity of the Project. The 2025 No-Build conditions represent a future scenario that incorporates traffic growth and any planned roadway infrastructure projects that will impact traffic volumes in the study area. The Project impacts are analyzed by estimating the number of vehicular trips expected to be generated, distributing through the study area network, and then adding them to the 2025 No-Build conditions. The 2025 Build conditions represent a future scenario that incorporates the expected Project-generated trips. The following sections describe the development of the future conditions scenarios.

#### 3.1.2025 Existing Conditions Traffic Volumes

A two percent annual growth rate was applied to the existing conditions traffic volumes to develop the future 2025 traffic volumes. The growth rate is consistent with other recent studies conducted for nearby projects. This growth rate reflects a conservative estimate. The Town of Arlington's 2015 Master Plan anticipates a much lower traffic volume growth rate over the next ten years (3.3 percent over a ten year period).

Traffic volumes expected from planned and proposed projects are also incorporated into the future 2025 traffic conditions. As previously mentioned, the Mirak Mill Apartments residential project is proposed to be constructed to the east of the Project site. This project will consist of the demolition of some uses on that site and the construction of 130 residential units. Traffic volumes expected to be generated from this project were obtained from the traffic study and were added to the future 2025 traffic conditions.

The two percent annual growth rate and the expected traffic related to the Mirak Mill Apartments were added to the 2020 Existing conditions peak hour traffic volumes to develop the 2025 No-Build conditions weekday morning and evening peak hour traffic volumes. The 2025 No-Build traffic volumes are shown in Figure 5.



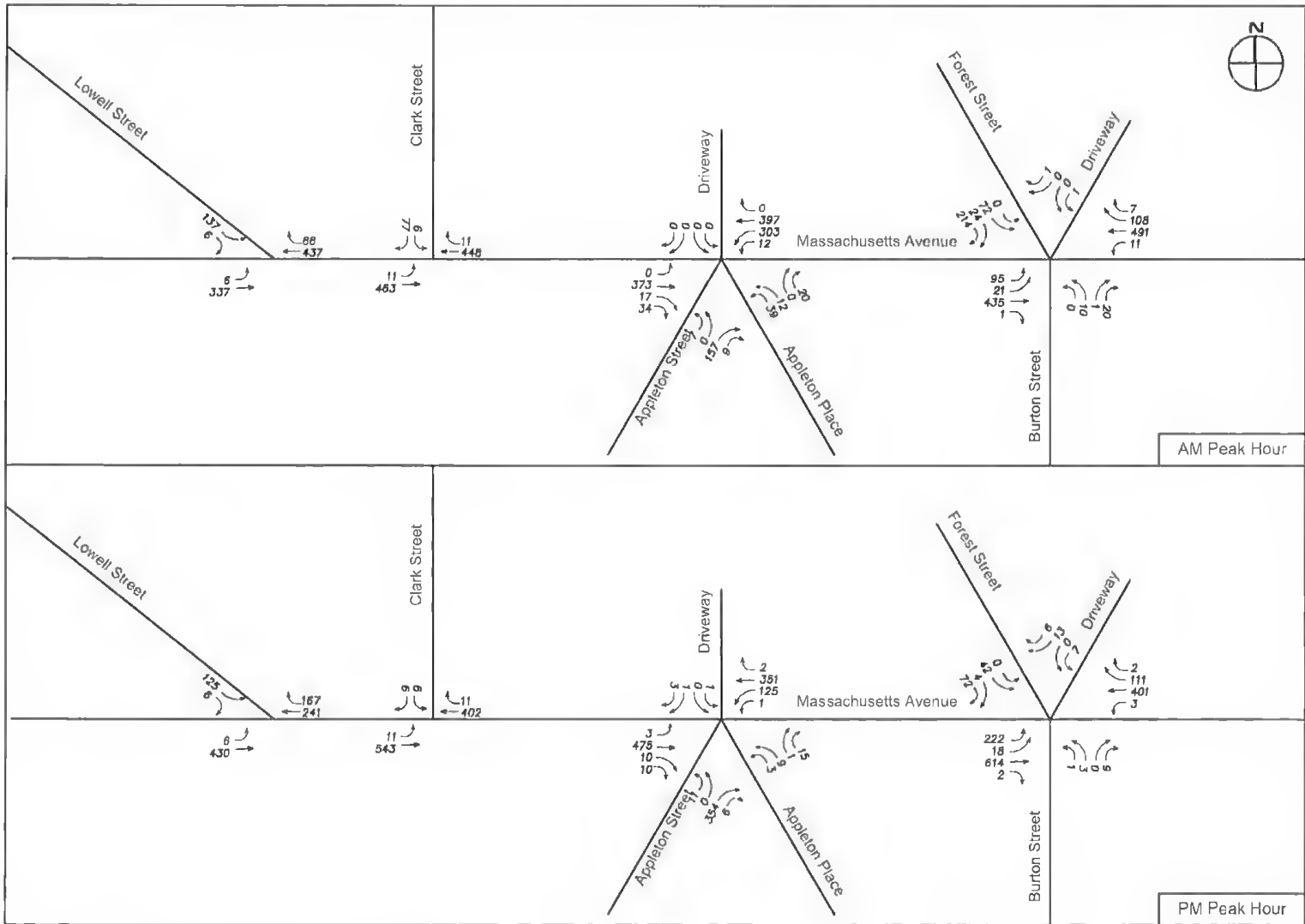


Figure 4  
 2025 No-Build Conditions Peak Hour Traffic Volumes  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



The Project site abuts the north side of Massachusetts Avenue and the east side of Clark Street east of the Arlington Heights neighborhood. The site will be served by a one-way circulating driveway that will serve as a valet pick-up/drop-off for visitors to the hotel. A parking lot will be located behind the hotel and will have access off the east side of Clark Street.

The Project will provide a total of 24 parking spaces for the hotel uses. A tandem-style garage will be located in the rear of the building on the north side of the site and will contain all 24 parking spaces. All parking on the site will be valet and will serve both the hotel and restaurant uses. The Project will not have any spaces for self-parking. On-street parking is allowed along both sides of Massachusetts Avenue. The Project will not change the overall number of available on-street parking spaces.

All loading and trash operations will occur in the rear of the building via the Clark Street curb cut. Deliveries will occur either in the pick-up/drop-off area or in the rear of the building, depending on the anticipated duration. Deliveries and loading operations will be limited to single-unit box trucks and smaller vehicles.

The Project will also provide outdoor bicycle racks for public use along Massachusetts Avenue. The racks will serve guests of the hotel and restaurant. A second bicycle storage facility will be provided on the site for employees that will work on site. The Project will also upgrade all adjacent sidewalks and pedestrian facilities as needed.

Trip generation estimates for the Project are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition. Trip generation estimates were developed for the proposed 50-room hotel. Estimates are also presented for the existing uses on the site for comparison purposes. Table 3 presents the trip generation for the Project.

**Table 3 Trip Generation Summary**

	Project Trips			Existing Uses					
Time Period	Hotel <sup>1</sup>	Restaurant <sup>2</sup>	Total	DAV Club <sup>2</sup>	Auto Dealership <sup>3</sup>	Automobile Service Station <sup>4</sup>	Apartment <sup>5</sup>	Total	Net Change
<i>AM Peak Hour</i>									
Entering	14	15	29	15	1	3	0	19	+10
Exiting	10	13	23	13	0	1	1	15	+8
Total	24	28	52	28	1	4	1	34	+18
<i>PM Peak Hour</i>									
Entering	15	17	32	17	0	3	1	21	+11
Exiting	15	10	25	10	1	2	0	13	+12
Total	30	27	57	27	1	5	1	34	+23

1 Based on ITE Land Use Code (LUC) 310 – Hotel (50 Rooms)

2 Based on ITE LUC 932 – High Turnover Sit Down Restaurant (2,800 sf)

3 Based on ITE LUC 841 – Automobile Sales, Used (264 sf)

4 Based on ITE LUC 942 – Automobile Care Center (1,650 sf)

5 Based on ITE LUC 220 – Multi-Family Housing, Low-Rise (1 unit)



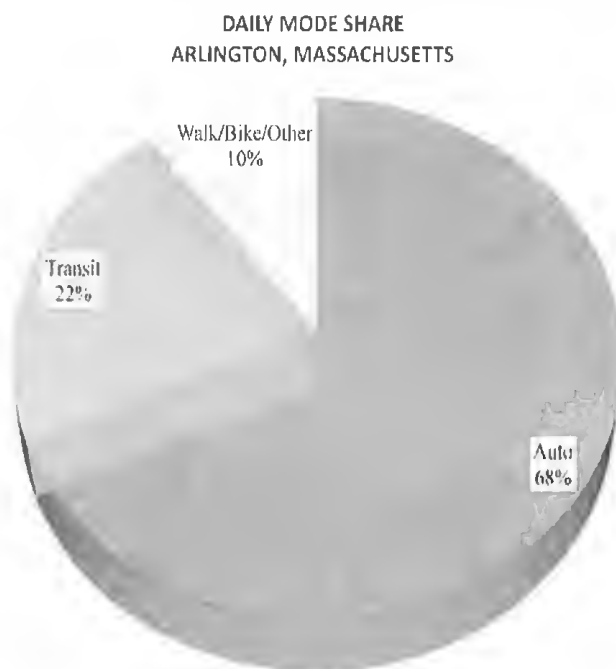
Based on the trip generation estimates, the Project is expected to generate 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday evening peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.

The peak hour trips are typically the most critical because those time periods are when the adjacent roadways experience the highest traffic demands throughout the course of the day. The peak hour increases represent approximately one additional trip every 2-4 minutes.

The trip generation estimates provided in Table 3 do not consider alternative modes of transportation such as walking, bicycling, and transit usage. Based on the location of the site and the proximity to two highly used MBTA bus routes (Routes #77 and #79), it is expected that a portion of the trips will be made by public transportation. It is also expected that a portion of the hotel-related trips will be made by taxi or ride-hailing service and will not use Clark Street for parking purposes. The following section discusses the mode shares for travel in the vicinity of the Project.

Mode-split data for the census tract in Arlington in which the Project site is located were obtained from the United States Census. The primary modes of travel for the Project are expected to be transit, walk/bicycling, and vehicular usage. The US Census provides travel mode shares over the course of an average weekday for commuting purposes only. However, the mode shares provide an insight into the availability and convenience of non-vehicular modes of travel. The mode shares for the census tract in which the Project site is located are presented below.

The predominant mode of commuting travel in this area of Arlington is by vehicle (68 percent). Transit



trips account for approximately 22 percent of travel and the remaining 10 percent of trips are made by walking, biking, or other travel modes. As previously stated, the mode shares represent daily commuting trips. It is expected that the hotel and restaurant usage of the Project will include taxi trips and may not exactly reflect commuting patterns. Additionally, the restaurant will serve the hotel guests and residents of the surrounding neighborhoods, allowing for a further reduction in vehicle-based trips. Further, the commuter mode share



percentages do indicate that there are opportunities other than driving for guests of the hotel once they are on-site.

### 3.5. Trip Distribution

Vehicular trip distribution patterns identify the origins and destinations for trips related to the Project site. Trip distribution patterns for the proposed uses were identified using existing traffic volumes along Massachusetts Avenue. It is assumed that traffic volumes along Massachusetts Avenue will accurately reflect the origins and destinations for trips related to the Project site. Based on the volumes, approximately 60 percent of the trips will be oriented to/from the east and 40 percent will be oriented to/from the west. Approximately 5 percent of the trips oriented to/from the west were assigned to Appleton Street, as it provides convenient access to Park Avenue and Route 2, south of the site. The trip distribution patterns are shown in Figure 6.

The Project-generated trips were assigned to the study area roadways and intersections based on the trip distribution patterns and are presented in Figure 7 for the weekday morning and evening peak hours. The Project-generated trips were then added to the 2025 No-Build conditions traffic volumes to develop the 2025 Build conditions traffic volumes and are shown in Figure 8.



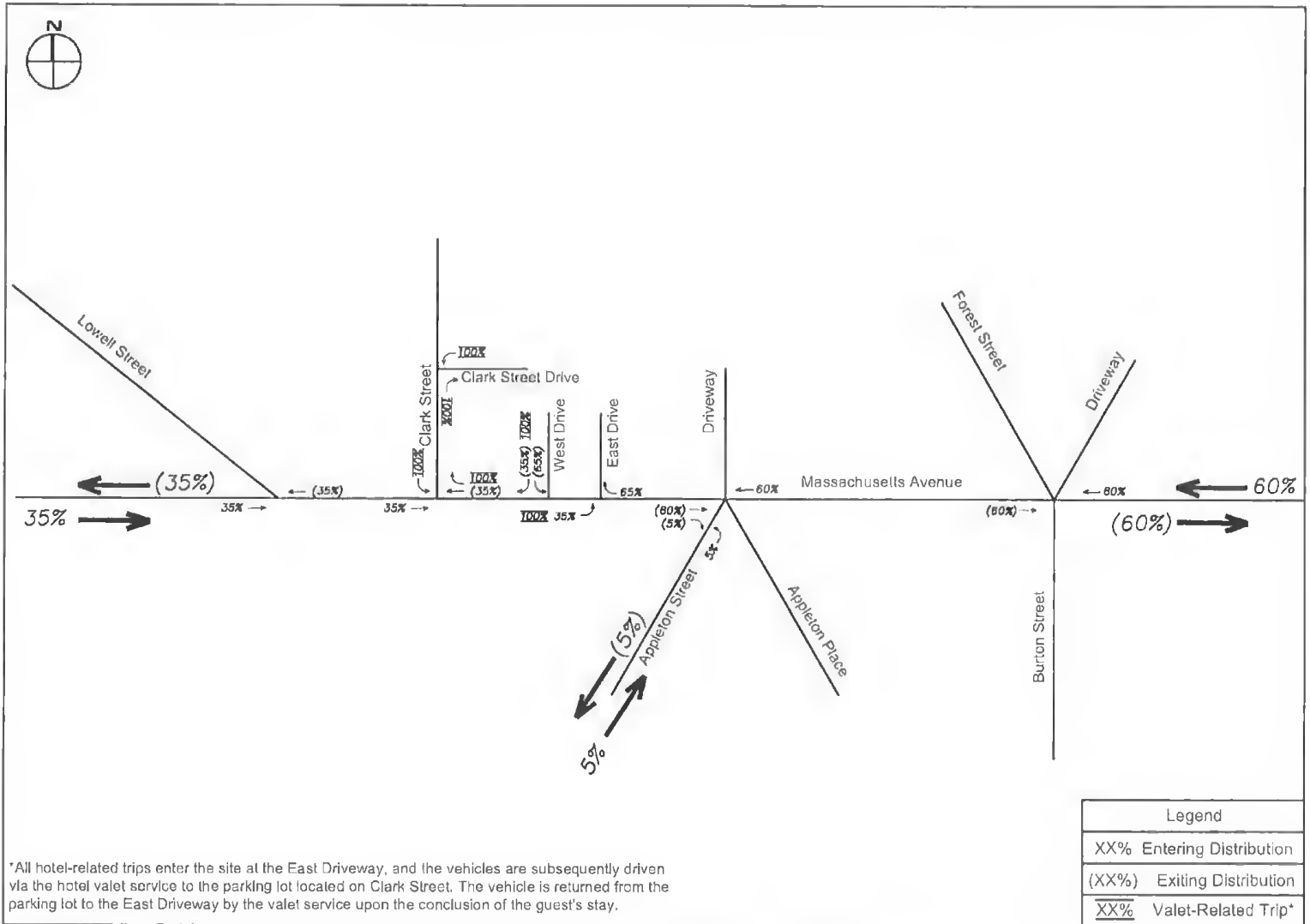
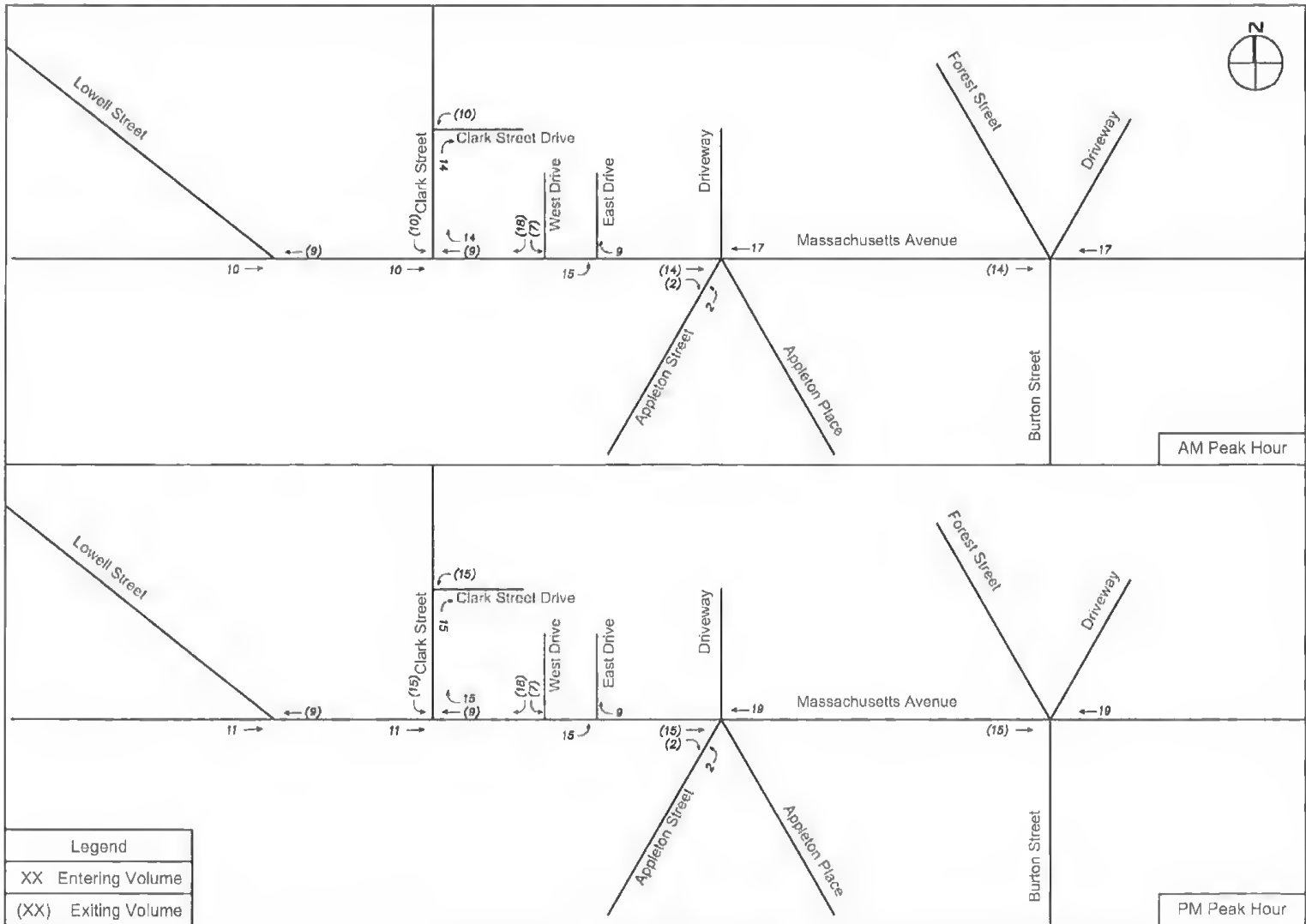


Figure 6  
 Project Trip Distribution Map  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA







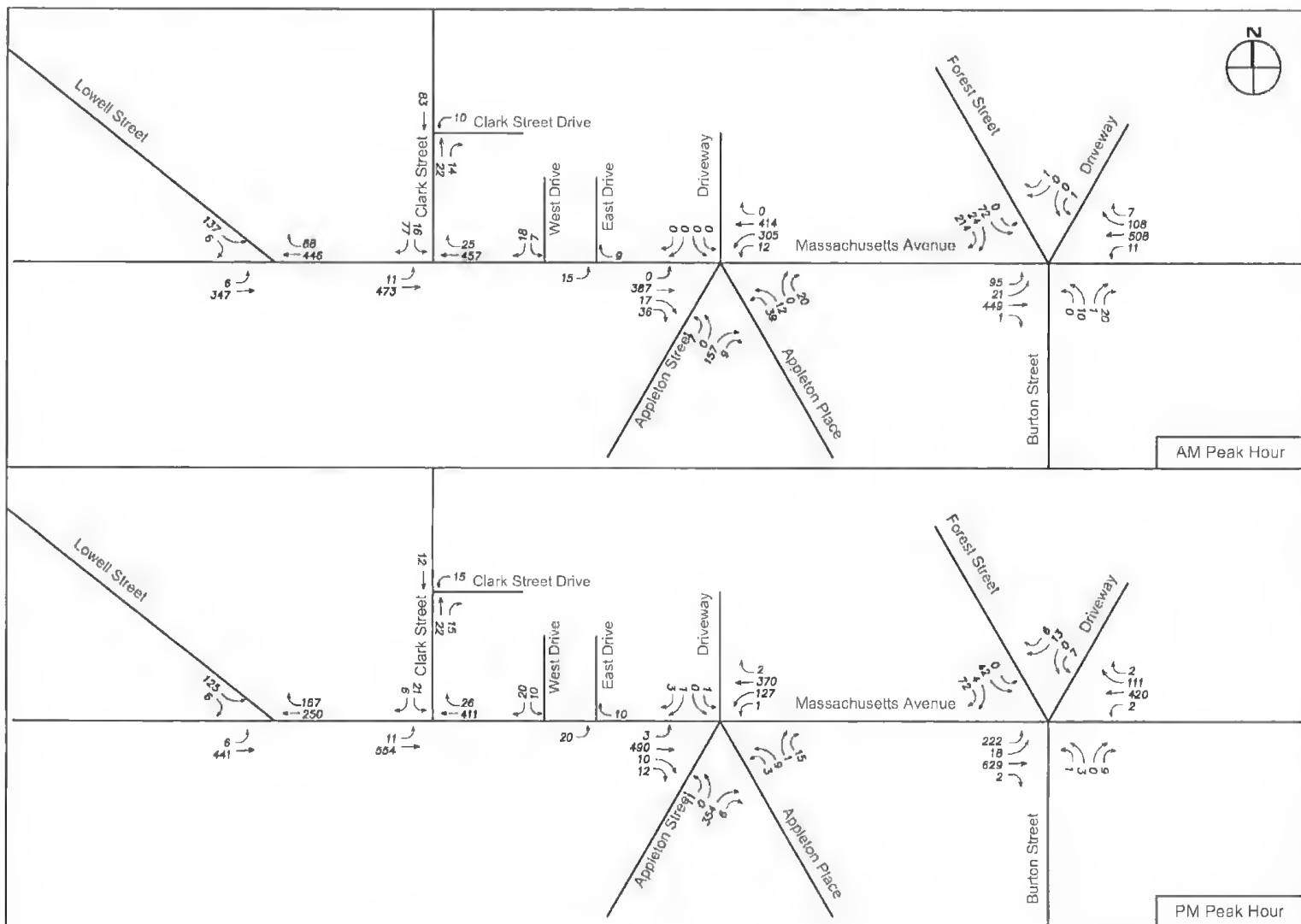


Figure 8  
 2025 Build Conditions Peak Hour Traffic Volumes  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



## 4 Traffic Operations Analysis

To assess the quality of traffic flow, capacity analyses were conducted at the study area intersections for the weekday morning and weekday evening peak hours. Analyses were conducted using the Synchro 10 traffic analysis software, which is based on methods defined in the Highway Capacity Manual (HCM) 2010<sup>1</sup>. Operations analyses were conducted for the 2020 Existing, 2025 No-Build, and 2025 Build conditions.

A primary result of capacity analyses is the assignment of a Level of Service (LOS) to traffic facilities under various traffic flow conditions. Six Levels of Services are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions with little delay and LOS F representing the worst, with the most delay.

The existing conditions operations analysis was calibrated to reflect traffic conditions observed in the field. Typically, the Synchro 10 and HCM methodologies use default values for various inputs, such as critical gaps. The critical gap is the minimum amount of time between consecutive vehicles traveling along a main line, such as Massachusetts Avenue, for a motorist along the side street to comfortably make a turning or crossing maneuver. The default values are typically higher than actual field observations. Some of these factors were reduced to better reflect actual operations and observed delays and queues.

The average delay per vehicle approaching an intersection is used to quantify the LOS at a particular intersection. The LOS designations are defined below in Table 4. Average delay measures the mean stopped delay experienced by vehicles entering an intersection during the analysis period. Average delay is measured for each individual turning movement that must yield the right of way. The vehicular queues and volume-to-capacity ratios (v/c) are also presented as part of the traffic operations analysis. The 95<sup>th</sup> percentile queues represent the maximum back of queue during the peak hour. The v/c ratios reflect the percentage of the overall operating capacity of a movement that the traffic volumes consume. A v/c ratio below 1.0 indicates that there is additional capacity that could be used if traffic volumes increase.

**Table 4 Level of Service Designations**

Level of Service	Average Delay (seconds/vehicle)	
	Unsignalized	Signalized
A	0.0 - 10.0	0.0 - 10.0
B	>10.0 - 15.0	>10.0 - 20.0
C	>15.0 - 25.0	>20.0 - 35.0
D	>25.0 - 35.0	>35.0 - 55.0
E	>35.0 - 50.0	>55.0 - 80.0
F	>50.0	>80.0

Source: Transportation Research Board, *Highway Capacity Manual*, National Research Council, 2010

Tables 5 and 6 show the operating conditions of the study intersections during the weekday morning and weekday evening peak hours for the three scenarios analyzed.

<sup>1</sup> *Highway Capacity Manual* 2010; Transportation Research Board; Washington, DC; 2010.



**Table 5 Traffic Operations Analysis Summary – Weekday Morning Peak Hour**

	2020 Existing Conditions				2025 No-Build Conditions				2025 Build Conditions			
	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue
<b>UNSIGNALIZED INTERSECTIONS</b>												
<b>Massachusetts Avenue/Lowell Street</b>												
Massachusetts Avenue EB L/T	0.2	A	0.01	1	0.3	A	0.01	1	0.3	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.33	0	0.0	A	0.37	0	0.0	A	0.37	0
Lowell Street SB L/R	17.9	C	0.34	36	20.9	C	0.41	49	21.6	C	0.42	51
<b>Massachusetts Avenue/Clark Street</b>												
Massachusetts Avenue EB L/T	0.4	A	0.01	1	0.4	A	0.02	1	0.4	A	0.02	1
Massachusetts Avenue WB T/R	0.00	A	0.29	0	0.0	A	0.32	0	0.0	A	0.34	0
Clark Street SB L/R	11.6	B	0.13	11	12.3	B	0.16	14	13.5	B	0.19	18
<b>Massachusetts Avenue/Appleton Street/ Appleton Place/Commercial Driveway</b>												
Massachusetts Avenue EB L/T/R	0.0	A	0.00	0	0.0	A	0.00	0	0.0	A	0.00	0
Massachusetts Avenue WB L/T/R	9.0	A	0.40	49	10.6	B	0.46	62	11.0	B	0.47	64
Appleton Street NB L/T/R	21.2	C	0.49	66	26.2	D	0.58	89	29.5	D	0.63	102
Appleton Place NB L/T/R	17.4	C	0.37	42	19.5	C	0.43	53	19.6	C	0.43	54
Driveway SB L/T/R	47.5	E	0.01	1	>50.0	F	0.01	1	>50.0	F	0.02	1
<b>Massachusetts Avenue/Forest Street/ Burton Street/Commercial Driveway</b>												
Massachusetts Avenue EB L/T/R	3.1	A	0.12	10	3.4	A	0.13	12	3.4	A	0.14	12
Massachusetts Avenue WB L/T/R	0.3	A	0.01	1	0.3	A	0.01	1	0.3	A	0.01	1
Burton Street NB L/T/R	15.7	C	0.16	14	17.6	C	0.20	18	18.1	C	0.21	19
Forest Street SB L/T/R	>50.0	F	0.88	214	>50.0	F	>1.00	354	>50.0	F	>1.00	374
Driveway SB L/T/R	13.6	B	0.02	1	14.6	B	0.02	2	14.9	B	0.02	2
<b>Massachusetts Avenue/West Driveway</b>												
Massachusetts Avenue EB T									0.0	A	0.38	0
Massachusetts Avenue WB T									0.0	A	0.32	0
West Driveway SB L/R									13.2	B	0.07	6
<b>Massachusetts Avenue/East Driveway</b>												
Massachusetts Avenue EB L/T									0.7	A	0.03	2
Massachusetts Avenue WB T/R									0.0	A	0.33	0
<b>Clark Street/Driveway</b>												
Clark Street NB T/R									0.0	A	0.02	0
Clark Street SB L/T									0.0	A	0.00	0
Driveway WB L/R									9.2	A	0.02	1



**Table 6** Traffic Operations Analysis Summary – Weekday Evening Peak Hour

	2020 Existing Conditions				2025 No-Build Conditions				2025 Build Conditions			
	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue
<b>UNSIGNALIZED INTERSECTIONS</b>												
<b>Massachusetts Avenue/Lowell Street</b>												
Massachusetts Avenue EB L/T	0.2	A	0.01	0	0.2	A	0.01	1	0.2	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.26	0	0.0	A	0.29	0	0.0	A	0.29	0
Lowell Street SB L/R	16.1	C	0.28	29	18.6	C	0.35	39	19.1	C	0.36	40
<b>Massachusetts Avenue/Clark Street</b>												
Massachusetts Avenue EB L/T	0.3	A	0.01	1	0.4	A	0.01	1	0.4	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.26	0	0.0	A	0.29	0	0.0	A	0.31	0
Clark Street SB L/R	13.0	B	0.02	2	14.0	B	0.03	3	16.9	C	0.09	7
<b>Massachusetts Avenue/Appleton Street/ Appleton Place/Commercial Driveway</b>												
Massachusetts Avenue EB L/T/R	0.1	A	0.00	0	0.1	A	0.00	0	0.1	A	0.00	0
Massachusetts Avenue WB L/T/R	3.3	A	0.12	10	3.6	A	0.14	12	3.6	A	0.14	12
Appleton Street NB L/T/R	17.7	C	0.58	95	22.8	C	0.69	138	24.0	C	0.71	145
Appleton Place NB L/T/R	10.0	B	0.05	4	10.3	B	0.06	5	10.3	B	0.06	5
Driveway SB L/T/R	18.3	C	0.03	2	23.0	C	0.04	3	24.3	C	0.05	4
<b>Massachusetts Avenue/Forest Street/ Burton Street/Commercial Driveway</b>												
Massachusetts Avenue EB L/T/R	4.9	A	0.22	21	5.7	A	0.25	25	5.9	A	0.25	25
Massachusetts Avenue WB L/T/R	0.1	A	0.00	0	0.1	A	0.00	0	0.1	A	0.00	0
Burton Street NB L/T/R	17.1	C	0.06	5	19.1	C	0.08	6	19.7	C	0.08	7
Forest Street SB L/T/R	23.1	C	0.40	47	31.4	D	0.53	72	33.7	D	0.55	76
Driveway SB L/T/R	11.9	B	0.06	5	12.9	B	0.08	7	12.9	B	0.08	7
<b>Massachusetts Avenue/West Driveway</b>												
Massachusetts Avenue EB T									0.0	A	0.45	0
Massachusetts Avenue WB T									0.0	A	0.29	0
West Driveway SB L/R									13.3	B	0.07	6
<b>Massachusetts Avenue/East Driveway</b>												
Massachusetts Avenue EB L/T									0.7	A	0.03	2
Massachusetts Avenue WB T/R									0.0	A	0.30	0
<b>Clark Street/Driveway</b>												
Clark Street NB T/R									0.0	A	0.02	0
Clark Street SB L/T									0.0	A	0.00	0
Driveway WB L/R									8.8	A	0.02	1



As shown in Tables 5 and 6, most movements within the study area operate at LOS D or better during the weekday morning peak hour and LOS C or better during the weekday evening peak hour. The Forest Street southbound approach to Massachusetts Avenue operates at LOS F during the weekday morning peak hour and is expected to operate at LOS D during the weekday evening peak hour under the future conditions.

Movements at Clark Street and Lowell Street are expected to operate at LOS C or better during the peak periods, with minimal queuing. These movements also operate within the available capacity of the intersection.

The Project is not expected to have any significant impact on delays of queuing throughout the study area. The Project will increase activity along the site frontage with Massachusetts Avenue and at the Clark Street intersection but will not require additional capacity for safe and efficient operations.

Based on the operations analysis, the existing transportation infrastructure has sufficient capacity to accommodate the Project and no mitigation is necessary.



## 5 Summary and Conclusions

This Traffic Impact and Access Study has been prepared for the proposed hotel to be located at 1207-1211 Massachusetts Avenue in Arlington, Massachusetts. The Project will consist of the demolition of the existing uses on the site and the construction of a 50-key hotel with ancillary restaurant uses. Access to the site will be provided by a valet-operated pick-up/drop-off area along Massachusetts Avenue and by a driveway that will serve a 24-space tandem-style parking lot off of Clark Street.

Using standard industry practices, this Traffic Impact and Access Study has reviewed existing traffic and roadway conditions in the vicinity of the site; identified specific developments and determined background traffic growth for the study area; and estimated and distributed the additional vehicular traffic that will be generated by the Project.

This study has shown that:

- The proposed Project is expected to generate approximately 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday afternoon peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.
- Compared to the No-Build condition, the study area intersections serving the Project are expected to operate at the same LOS with the addition of the expected Project-generated traffic. No additional mitigation or capacity enhancements are necessary at the study intersections or on the surrounding transportation infrastructure to accommodate the Project.
- Both required stopping sight distance and recommended intersection sight distances are met at both driveway locations.
- There are safety issues at the intersection of Massachusetts Avenue at Appleton Street and Appleton Place based on the MassDOT crash data and a recent fatal collision involving a bicyclist.

In conclusion, it is the opinion of BSC Group that the vehicle trips generated by the Project can be accommodated at the study area intersections and roadways without the need for additional mitigation. Further investigation into the safety issues throughout the study area should be considered by the Town of Arlington.



# Technical Appendix

**Traffic Count Data**

**Motor Vehicle Crash Data**

**Traffic Operations Analysis**



## Traffic Count Data



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Tuesday, February 4, 2020  
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	5	2	0	7	12:00 PM	119	6	0	125
12:15 AM	6	1	0	7	12:15 PM	111	6	0	117
12:30 AM	0	2	2	4	12:30 PM	135	6	0	141
12:45 AM	4	2	0	6	12:45 PM	45	6	0	51
1:00 AM	1	1	0	2	1:00 PM	1	1	0	2
1:15 AM	4	0	0	4	1:15 PM	2	0	0	2
1:30 AM	0	0	0	0	1:30 PM	1	4	0	5
1:45 AM	1	1	0	2	1:45 PM	0	2	0	2
2:00 AM	1	0	0	1	2:00 PM	0	2	0	2
2:15 AM	2	0	0	2	2:15 PM	0	3	0	3
2:30 AM	0	0	0	0	2:30 PM	15	5	0	20
2:45 AM	1	1	0	2	2:45 PM	105	4	0	109
3:00 AM	0	0	0	0	3:00 PM	114	2	1	117
3:15 AM	0	0	0	0	3:15 PM	133	2	0	135
3:30 AM	2	0	0	2	3:30 PM	123	6	0	129
3:45 AM	3	1	1	5	3:45 PM	125	2	1	128
4:00 AM	1	0	0	1	4:00 PM	124	4	0	128
4:15 AM	3	0	1	4	4:15 PM	118	3	0	121
4:30 AM	9	1	0	10	4:30 PM	128	1	1	130
4:45 AM	4	1	0	5	4:45 PM	144	3	0	147
5:00 AM	17	1	0	18	5:00 PM	124	3	0	127
5:15 AM	16	3	0	19	5:15 PM	148	3	0	151
5:30 AM	15	1	0	16	5:30 PM	160	2	0	162
5:45 AM	17	5	0	22	5:45 PM	143	2	0	145
6:00 AM	30	2	0	32	6:00 PM	131	3	0	134
6:15 AM	55	3	2	60	6:15 PM	133	2	0	135
6:30 AM	82	4	2	88	6:30 PM	138	1	0	139
6:45 AM	102	6	0	108	6:45 PM	115	4	0	119
7:00 AM	101	11	2	114	7:00 PM	100	4	0	104
7:15 AM	110	4	2	116	7:15 PM	84	1	0	85
7:30 AM	110	11	1	122	7:30 PM	75	3	0	78
7:45 AM	131	10	1	142	7:45 PM	61	1	0	62
8:00 AM	102	7	0	109	8:00 PM	66	4	0	70
8:15 AM	99	9	1	109	8:15 PM	52	1	0	53
8:30 AM	116	6	0	122	8:30 PM	59	2	0	61
8:45 AM	113	7	0	120	8:45 PM	44	4	0	48
9:00 AM	90	8	0	98	9:00 PM	44	3	0	47
9:15 AM	116	5	0	121	9:15 PM	40	4	0	44
9:30 AM	87	6	1	94	9:30 PM	30	3	0	33
9:45 AM	106	5	0	111	9:45 PM	24	0	0	24
10:00 AM	89	8	0	97	10:00 PM	23	4	0	27
10:15 AM	73	5	1	79	10:15 PM	26	2	0	28
10:30 AM	108	14	1	123	10:30 PM	20	1	0	21
10:45 AM	90	8	0	98	10:45 PM	14	2	0	16
11:00 AM	84	4	0	88	11:00 PM	9	2	0	11
11:15 AM	97	9	0	106	11:15 PM	14	1	0	15
11:30 AM	85	7	0	92	11:30 PM	6	3	0	9
11:45 AM	89	6	1	96	11:45 PM	6	2	0	8

AM Total 2377 188 19 2584  
Percentage 91.99% 7.28% 0.74%

PM Total 3432 135 3 3570  
Percentage 96.13% 3.78% 0.08%

AM Peak 7:15 AM 7:30 AM 6:15 AM 7:00 AM  
Volume 453 37 6 494

PM Peak 5:15 PM 12:00 PM 3:00 PM 5:15 PM  
Volume 582 24 2 592

Day Total 5809 323 22 6154  
Percentage 94.39% 5.25% 0.36%



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Wednesday, February 5, 2020  
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	2	0	2	12:00 PM	107	5	0	112
12:15 AM	7	1	0	8	12:15 PM	123	5	1	129
12:30 AM	2	2	0	4	12:30 PM	128	5	0	133
12:45 AM	3	2	0	5	12:45 PM	116	5	0	121
1:00 AM	2	1	0	3	1:00 PM	102	7	0	109
1:15 AM	2	0	0	2	1:15 PM	103	6	1	110
1:30 AM	0	0	0	0	1:30 PM	100	9	0	109
1:45 AM	1	0	0	1	1:45 PM	106	4	0	110
2:00 AM	1	0	0	1	2:00 PM	90	6	0	96
2:15 AM	1	0	0	1	2:15 PM	103	7	0	110
2:30 AM	1	0	0	1	2:30 PM	95	5	0	100
2:45 AM	1	0	0	1	2:45 PM	103	7	0	110
3:00 AM	1	0	0	1	3:00 PM	128	7	0	135
3:15 AM	0	0	0	0	3:15 PM	134	8	0	142
3:30 AM	2	2	0	4	3:30 PM	106	7	0	113
3:45 AM	1	0	1	2	3:45 PM	118	5	0	123
4:00 AM	2	0	0	2	4:00 PM	119	9	2	130
4:15 AM	7	0	0	7	4:15 PM	129	6	0	135
4:30 AM	13	1	0	14	4:30 PM	129	6	0	135
4:45 AM	2	1	0	3	4:45 PM	124	2	0	126
5:00 AM	9	3	0	12	5:00 PM	150	3	0	153
5:15 AM	16	2	1	19	5:15 PM	123	2	0	125
5:30 AM	14	1	0	15	5:30 PM	155	2	0	157
5:45 AM	16	3	0	19	5:45 PM	148	2	0	150
6:00 AM	19	3	0	22	6:00 PM	146	4	0	150
6:15 AM	55	2	0	57	6:15 PM	126	5	0	131
6:30 AM	73	6	0	79	6:30 PM	111	3	0	114
6:45 AM	96	18	0	114	6:45 PM	113	7	0	120
7:00 AM	111	9	1	121	7:00 PM	93	3	0	96
7:15 AM	114	5	0	119	7:15 PM	99	1	0	100
7:30 AM	113	4	0	117	7:30 PM	71	5	0	76
7:45 AM	113	4	1	118	7:45 PM	56	2	0	58
8:00 AM	98	5	1	104	8:00 PM	73	4	0	77
8:15 AM	130	4	0	134	8:15 PM	60	3	0	63
8:30 AM	128	4	1	133	8:30 PM	65	1	0	66
8:45 AM	104	6	1	111	8:45 PM	53	4	0	57
9:00 AM	109	2	0	111	9:00 PM	48	2	0	50
9:15 AM	116	8	1	125	9:15 PM	33	2	0	35
9:30 AM	102	6	0	108	9:30 PM	22	4	0	26
9:45 AM	101	8	0	109	9:45 PM	24	1	0	25
10:00 AM	99	5	2	106	10:00 PM	18	4	0	22
10:15 AM	71	7	0	78	10:15 PM	24	1	0	25
10:30 AM	102	5	0	107	10:30 PM	13	0	0	13
10:45 AM	99	4	0	103	10:45 PM	17	4	0	21
11:00 AM	77	5	0	82	11:00 PM	10	2	0	12
11:15 AM	106	3	0	109	11:15 PM	5	1	0	6
11:30 AM	121	4	0	125	11:30 PM	8	3	0	11
11:45 AM	103	5	0	108	11:45 PM	3	1	1	5

AM Total 2464 153 10 2627  
Percentage 93.80% 5.82% 0.38%  
AM Peak 8:15 AM 6:30 AM 7:45 AM 7:45 AM  
Volume 471 38 3 489

PM Total 4130 197 5 4332  
Percentage 95.34% 4.55% 0.12%  
PM Peak 5:00 PM 2:45 PM 3:15 PM 5:30 PM  
Volume 576 29 2 588

Day Total 6594 350 15 6959  
Percentage 94.75% 5.03% 0.22%



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Tuesday, February 4, 2020  
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	6	2	0	8	12:00 PM	112	6	1	119
12:15 AM	7	1	0	8	12:15 PM	106	5	0	111
12:30 AM	3	1	0	4	12:30 PM	103	7	0	110
12:45 AM	2	2	0	4	12:45 PM	93	6	0	99
1:00 AM	2	1	0	3	1:00 PM	4	2	1	7
1:15 AM	0	0	1	1	1:15 PM	11	6	0	17
1:30 AM	0	2	0	2	1:30 PM	8	2	1	11
1:45 AM	0	0	0	0	1:45 PM	8	3	0	11
2:00 AM	2	0	0	2	2:00 PM	6	3	1	10
2:15 AM	0	0	0	0	2:15 PM	5	5	0	10
2:30 AM	1	0	0	1	2:30 PM	20	1	0	21
2:45 AM	0	0	0	0	2:45 PM	108	8	1	117
3:00 AM	0	0	0	0	3:00 PM	116	4	0	120
3:15 AM	1	0	0	1	3:15 PM	124	6	0	130
3:30 AM	1	0	1	2	3:30 PM	97	3	0	100
3:45 AM	1	0	0	1	3:45 PM	116	5	0	121
4:00 AM	1	0	0	1	4:00 PM	117	3	0	120
4:15 AM	3	0	0	3	4:15 PM	96	2	0	98
4:30 AM	7	1	0	8	4:30 PM	109	3	0	112
4:45 AM	9	0	0	9	4:45 PM	112	2	0	114
5:00 AM	10	4	0	14	5:00 PM	113	7	1	121
5:15 AM	17	3	0	20	5:15 PM	98	1	0	99
5:30 AM	22	1	1	24	5:30 PM	98	1	0	99
5:45 AM	28	3	0	31	5:45 PM	122	3	0	125
6:00 AM	29	1	0	30	6:00 PM	123	1	0	124
6:15 AM	32	5	3	40	6:15 PM	84	3	0	87
6:30 AM	38	1	0	39	6:30 PM	103	3	1	107
6:45 AM	69	6	0	75	6:45 PM	84	4	0	88
7:00 AM	85	11	0	96	7:00 PM	97	0	0	97
7:15 AM	74	7	0	81	7:15 PM	77	2	0	79
7:30 AM	130	7	0	137	7:30 PM	88	3	1	92
7:45 AM	139	5	1	145	7:45 PM	75	0	0	75
8:00 AM	145	7	0	152	8:00 PM	72	4	0	76
8:15 AM	100	3	1	104	8:15 PM	56	1	0	57
8:30 AM	97	9	0	106	8:30 PM	71	5	0	76
8:45 AM	124	7	1	132	8:45 PM	43	2	0	45
9:00 AM	95	8	0	103	9:00 PM	65	2	0	67
9:15 AM	78	8	1	87	9:15 PM	42	3	0	45
9:30 AM	91	3	0	94	9:30 PM	38	2	0	40
9:45 AM	98	10	1	109	9:45 PM	27	2	0	29
10:00 AM	88	3	1	92	10:00 PM	24	4	0	28
10:15 AM	90	7	0	97	10:15 PM	20	1	0	21
10:30 AM	75	4	0	79	10:30 PM	23	1	0	24
10:45 AM	90	11	0	101	10:45 PM	16	1	0	17
11:00 AM	93	10	1	104	11:00 PM	14	1	0	15
11:15 AM	82	4	1	87	11:15 PM	7	2	0	9
11:30 AM	107	3	0	110	11:30 PM	5	1	0	6
11:45 AM	106	5	2	113	11:45 PM	7	2	0	9

AM Total 2278 166 16 2460  
Percentage 92.60% 6.75% 0.65%  
AM Peak 7:30 AM 8:30 AM 5:30 AM 7:30 AM  
Volume 514 32 4 538

PM Total 3163 144 8 3315  
Percentage 95.41% 4.34% 0.24%  
PM Peak 3:15 PM 12:00 PM 12:45 PM 3:00 PM  
Volume 454 24 2 471

Day Total 5441 310 24 5775  
Percentage 94.22% 5.37% 0.42%



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Wednesday, February 5, 2020  
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	4	2	0	6	12:00 PM	99	8	0	107
12:15 AM	2	1	0	3	12:15 PM	125	5	1	131
12:30 AM	2	2	1	5	12:30 PM	100	4	1	105
12:45 AM	1	1	0	2	12:45 PM	109	9	0	118
1:00 AM	4	1	0	5	1:00 PM	105	4	0	109
1:15 AM	2	0	0	2	1:15 PM	106	5	0	111
1:30 AM	1	0	0	1	1:30 PM	113	10	0	123
1:45 AM	2	1	0	3	1:45 PM	95	5	0	100
2:00 AM	0	0	0	0	2:00 PM	113	5	0	118
2:15 AM	1	0	0	1	2:15 PM	103	10	0	113
2:30 AM	1	0	0	1	2:30 PM	141	2	0	143
2:45 AM	0	0	0	0	2:45 PM	130	7	0	137
3:00 AM	1	0	0	1	3:00 PM	129	12	0	141
3:15 AM	2	0	0	2	3:15 PM	113	6	2	121
3:30 AM	1	0	0	1	3:30 PM	126	6	0	132
3:45 AM	0	0	0	0	3:45 PM	106	8	0	114
4:00 AM	2	0	0	2	4:00 PM	119	1	0	120
4:15 AM	1	0	0	1	4:15 PM	123	5	0	128
4:30 AM	6	1	0	7	4:30 PM	98	5	1	104
4:45 AM	7	1	1	9	4:45 PM	113	1	0	114
5:00 AM	10	3	0	13	5:00 PM	126	5	0	131
5:15 AM	12	1	0	13	5:15 PM	126	2	0	128
5:30 AM	23	1	0	24	5:30 PM	113	4	0	117
5:45 AM	20	2	0	22	5:45 PM	111	3	0	114
6:00 AM	23	4	1	28	6:00 PM	114	2	0	116
6:15 AM	34	5	1	40	6:15 PM	87	6	0	93
6:30 AM	35	3	0	38	6:30 PM	92	7	0	99
6:45 AM	67	11	1	79	6:45 PM	92	4	0	96
7:00 AM	78	3	0	81	7:00 PM	82	2	0	84
7:15 AM	90	7	1	98	7:15 PM	84	2	0	86
7:30 AM	129	5	0	134	7:30 PM	62	5	0	67
7:45 AM	148	5	0	153	7:45 PM	51	1	0	52
8:00 AM	143	1	1	145	8:00 PM	70	3	0	73
8:15 AM	110	5	1	116	8:15 PM	69	3	0	72
8:30 AM	122	4	1	127	8:30 PM	72	2	1	75
8:45 AM	106	5	0	111	8:45 PM	55	2	0	57
9:00 AM	104	12	0	116	9:00 PM	59	2	0	61
9:15 AM	80	12	1	93	9:15 PM	44	4	0	48
9:30 AM	90	7	2	99	9:30 PM	28	1	0	29
9:45 AM	97	8	1	106	9:45 PM	26	3	0	29
10:00 AM	97	2	0	99	10:00 PM	23	2	0	25
10:15 AM	82	7	0	89	10:15 PM	22	1	0	23
10:30 AM	87	3	0	90	10:30 PM	12	1	0	13
10:45 AM	89	4	0	93	10:45 PM	26	2	0	28
11:00 AM	84	8	1	93	11:00 PM	11	1	0	12
11:15 AM	91	5	0	96	11:15 PM	7	2	0	9
11:30 AM	99	4	0	103	11:30 PM	3	2	0	5
11:45 AM	105	5	0	110	11:45 PM	7	2	0	9

AM Total 2295 152 14 2461  
Percentage 93.25% 6.18% 0.57%

AM Peak 7:30 AM 9:00 AM 9:00 AM 7:30 AM  
Volume 530 39 4 548

PM Total 3940 194 6 4140  
Percentage 95.17% 4.69% 0.14%

PM Peak 2:30 PM 3:00 PM 12:00 PM 2:30 PM  
Volume 513 32 2 542

Day Total 6235 346 20 6601  
Percentage 94.46% 5.24% 0.30%



PDI File # 207450 ATR A



Direction: EB

## Weekly Report

[illegible]



PD| File # 207450 ATR A

[illegible]



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



Cars and Heavy Vehicles (Combined)

	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue									
	from North					from East					from South					from Southwest					from West					from East					from South					from Southwest					from West									
	Right	Left	Thru	Left	U Turn	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total															
7:00 AM	0	0	0	0	0	0	12	61	0	0	115	2	0	3	1	0	0	22	0	1	0	23	2	1	83	0	0	0	0	86	250																			
7:15 AM	0	0	0	0	0	0	72	54	1	0	127	2	0	2	1	0	0	21	0	2	0	23	8	1	95	0	0	0	103	264																				
7:30 AM	0	0	0	0	0	0	71	76	0	0	147	4	0	1	1	0	0	11	0	2	0	13	4	1	84	0	0	0	95	282																				
7:45 AM	0	0	0	0	0	0	88	61	0	0	149	7	0	6	29	0	42	6	11	0	3	0	10	14	2	103	0	0	118	367																				
Total	0	0	0	0	0	0	303	252	6	0	561	15	0	12	34	0	91	8	108	0	6	0	124	30	14	385	0	0	409	1155																				
8:00 AM	0	0	0	0	0	0	117	65	1	0	183	4	0	3	4	0	11	0	46	0	1	0	47	4	2	66	0	0	72	316																				
8:15 AM	0	0	0	0	0	0	73	63	2	0	138	3	0	1	1	0	5	1	37	0	0	0	38	4	1	78	0	0	83	264																				
8:30 AM	0	0	0	0	0	0	72	51	3	0	126	2	0	0	4	0	6	1	29	0	0	0	30	3	0	84	0	0	84	256																				
8:45 AM	0	0	0	0	0	0	92	47	3	0	142	0	0	2	1	0	0	0	23	0	2	0	25	1	0	98	0	0	84	265																				
Total	0	0	0	0	0	0	354	226	12	0	559	9	0	6	10	0	23	2	142	0	8	0	152	14	6	311	1	0	132	1101																				
Carried Total	0	0	0	0	0	0	657	478	18	0	1153	24	0	18	44	0	86	10	250	0	16	0	276	44	20	676	1	0	141	2138																				
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	57.0	41.5	1.6	0.0	27.9	0.0	20.9	51.2	0.0	3.6	90.6	0.0	5.8	0.0	5.9	2.7	91.2	0.1	0.0																									
Total %	0.0	0.0	0.0	0.0	0.0	0.0	29.1	21.2	0.8	0.0	31.3	1.1	0.0	0.8	2.0	0.0	7.0	0.4	11.1	0.0	0.7	0.0	12.2	2.0	0.9	100.0	0.0	0.0	32.9																					
Turning Leg Total	1					1					48					586					871																													
Left	0	0	0	0	0	0	600	465	18	0	1083	24	0	17	41	0	86	4	247	0	15	0	261	43	19	613	1	0	676	2112																				
% Left	0.0	0.0	0.0	0.0	0.0	0.0	91.3	97.3	100.0	0.0	95.9	100.0	0.0	94.4	93.2	0.0	85.3	0.0	98.8	0.0	93.8	0.0	98.2	97.7	95.0	90.7	100.0	0.0	0.0	91.2	93.6																			
Turning Leg Total	1					1					48					586					871																													
Heavy Vehicles	0	0	0	0	0	0	57	13	0	0	70	0	0	1	2	0	4	1	3	0	1	0	1	1	1	63	0	0	65	144																				
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	8.7	2.7	0.0	0.0	6.1	0.0	0.0	5.6	6.8	0.0	4.7	10.0	1.2	0.0	6.3	0.0	1.8	2.3	5.0	9.3	0.0	0.0	8.8	6.4																				
Turning Leg Total	0					0					2					12					32																													

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

7:30 AM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue							
	from North					from East					from South					from Southwest					from West							
	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total			
7:30 AM	0	0	0	0	0	0	71	78	0	0	147	4	0	1	1	0	6	1	31	0	2	0	34	6	1	84	0	0
7:45 AM	0	0	0	0	0	0	82	41	5	0	128	7	0	6	29	0	42	6	31	0	3	0	40	16	2	103	0	0
8:00 AM	0	0	0	0	0	0	117	85	4	0	196	4	0	3	4	0	11	0	46	0	1	0	47	4	2	64	0	0
8:15 AM	0	0	0	0	0	0	73	63	2	0	138	3	0	1	1	0	5	1	37	0	0	0	38	4	1	78	0	0
Total Volume	0	0	0	0	0	0	349	265	11	0	625	18	0	11	35	0	64	4	145	0	8	0	159	20	15	331	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	55.3	42.4	1.8	0.0	28.1	0.0	0.0	18.2	54.7	0.0	1.6	23.1	91.2	0.0	1.3	0.0	8.5	0.0	4.0	82.0	0.0	0.0
Left	0.000	0.000	0.000	0.000	0.000	0.000	0.746	0.872	0.550	0.000	0.840	0.643	0.000	0.459	0.307	0.000	0.281	0.213	0.789	0.000	0.500	0.000	0.856	0.469	0.536	0.803	0.000	0.000
Cars	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	0
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	93.1	97.7	100.0	0.0	95.2	100.0	0.0	100.0	94.3	0.0	96.9	100.0	98.6	0.0	100.0	0.0	98.7	96.7	100.0	88.8	0.0	0.0
Heavy Vehicles	0	0	0	0	0	0	24	6	0	0	30	0	0	0	2	0	2	0	2	0	0	0	2	1	0	37	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	6.9	2.3	0.0	0.0	4.8	0.0	0.0	0.0	5.7	0.0	3.1	0.0	1.4	0.0	0.0	0.0	1.3	3.3	0.0	11.2	0.0	0.0
Cars Enter Leg	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	0
Heavy Enter Leg	0	0	0	0	0	0	24	6	0	0	30	0	0	0	2	0	2	0	2	0	0	0	2	1	0	37	0	0
Total Entering Leg	0	0	0	0	0	0	349	265	11	0	625	18	0	11	35	0	64	8	145	0	8	0	159	30	15	331	0	0
Cars Exiting Leg	0					0					34					323					842							
Heavy Exiting Leg	0					0					2					9					24							
Total Exiting Leg	0					0					34					323					842							



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



### Cars

Class	Class																	Class																	Total
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue										
	from North						from East						from South						from Southwest						from West										
	Right	Thru	Left	U-Left	U-Right	Total	Right	Thru	Left	U-Left	U-Right	Total	Right	Thru	Left	U-Left	U-Right	Total	Right	Thru	Left	U-Left	U-Right	Total	Right	Thru	Left	U-Left	U-Right	Total					
7:00 AM	0	0	0	0	0	0	0	59	61	0	0	120	2	0	3	2	0	5	0	23	0	1	0	24	2	1	75	0	0	78	227				
7:15 AM	0	0	0	0	0	0	0	65	51	1	0	117	2	0	1	1	0	4	0	24	0	1	0	25	6	1	87	0	0	94	240				
7:30 AM	0	0	0	0	0	0	0	63	76	0	0	139	4	0	1	1	0	6	1	32	0	2	0	34	6	1	72	0	0	83	261				
7:45 AM	0	0	0	0	0	0	0	83	67	1	0	151	7	0	8	27	0	35	6	30	0	3	0	39	15	2	53	0	0	115	311				
Total	0	0	0	0	0	0	0	208	249	6	0	522	15	0	11	31	0	57	7	105	0	7	0	119	29	14	328	0	0	371	1049				
8:00 AM	0	0	0	0	0	0	0	111	64	4	0	179	4	0	3	4	0	11	0	46	0	1	0	47	4	2	61	0	0	67	304				
8:15 AM	0	0	0	0	0	0	0	70	59	2	0	131	3	0	1	1	0	5	1	37	0	0	0	38	4	1	67	0	0	72	246				
8:30 AM	0	0	0	0	0	0	0	66	49	1	0	116	2	0	0	4	0	6	1	29	0	0	0	30	5	0	80	0	0	85	244				
8:45 AM	0	0	0	0	0	0	0	85	45	1	0	131	0	0	2	1	0	3	0	30	0	2	0	32	1	2	77	0	0	81	249				
Total	0	0	0	0	0	0	0	332	227	12	0	555	9	0	6	10	0	25	2	142	0	3	0	152	14	5	285	1	0	305	1043				
Grand Total	0	0	0	0	0	0	0	600	465	18	0	1083	24	0	17	41	0	82	9	247	0	15	0	271	43	19	613	1	0	616	2312				
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.4	42.9	1.7	0.0	29.3	0.0	20.7	50.0	0.0	33.3	91.1	0.0	5.5	0.0	0.0	17.8	6.4	2.8	30.7	0.1	0.0	22.0	100.0					
Left %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4	22.0	0.9	0.0	51.3	1.1	0.0	0.8	1.9	0.0	8.9	0.0	11.7	0.0	0.7	0.0	17.8	2.0	0.9	29.0	0.0	0.0	32.0	100.0				
Lefting % Total	0	0	0	0	0	0	0	28.4	22.0	0.9	0.0	51.3	1.1	0.0	0.8	1.9	0.0	8.9	0.0	11.7	0.0	0.7	0.0	17.8	2.0	0.9	29.0	0.0	0.0	32.0	100.0				

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue							Total
	from North						from East						from South						from Southwest						from West							
	Right	Thru	Left	U-Left	U-Right	Total	Right	Thru	Left	U-Left	U-Right	Total	Right	Thru	Left	U-Left	U-Right	Total	Right	Thru	Left	U-Left	U-Right	Total	Right	Thru	Left	U-Left	U-Right	Total		
7:30 AM	0	0	0	0	0	0	0	63	76	0	0	139	4	0	1	1	0	6	1	30	0	1	0	32	6	1	72	0	0	83	261	
7:45 AM	0	0	0	0	0	0	0	81	60	5	0	146	7	0	6	27	0	34	6	30	0	1	0	37	15	2	61	0	0	116	341	
8:00 AM	0	0	0	0	0	0	0	111	64	4	0	179	4	0	3	4	0	11	0	46	0	1	0	47	4	2	61	0	0	67	304	
8:15 AM	0	0	0	0	0	0	0	70	59	2	0	131	3	0	1	1	0	5	1	37	0	0	0	38	4	1	67	0	0	72	246	
Total Volume	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	31	0	67	8	143	0	6	0	157	29	14	264	0	0	371	1049	
% Approach to Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.6	42.9	1.8	0.0	29.3	0.0	20.7	50.0	0.0	33.3	91.1	0.0	5.5	0.0	0.0	17.8	6.4	2.8	30.7	0.1	0.0	22.0	100.0		
Left %	0.000	0.000	0.000	0.000	0.000	0.000	0.000	28.4	22.0	0.9	0.0	51.3	1.1	0.0	0.8	1.9	0.0	8.9	0.0	11.7	0.0	0.7	0.0	17.8	2.0	0.9	29.0	0.0	0.0	32.0	100.0	
Lefting % Total	0	0	0	0	0	0	0	28.4	22.0	0.9	0.0	51.3	1.1	0.0	0.8	1.9	0.0	8.9	0.0	11.7	0.0	0.7	0.0	17.8	2.0	0.9	29.0	0.0	0.0	32.0	100.0	
Total	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	31	0	67	8	143	0	6	0	157	29	14	264	0	0	371	1049	



PDI File #: 207450 A  
 Location: N: Driveway St; Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



### Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue				
	from North					from East					from South					from Southwest					from West				
	Right	Left	Thru	Left	U-turn	Right	Thru	Left	Left	U-turn	Right	Thru	Left	Left	U-turn	Right	Thru	Left	Left	U-turn	Right	Thru	Left	Left	U-turn
7:00 AM	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	81.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	39.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left-turning Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thru %	0	0	0	0	0	0	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-turning %	0.0	0.0	0.0	0.0	0.0	0.0	42.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left-turning Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Single Unit	0.0	0.0	0.0	0.0	0.0	0.0	52.6	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left-turning %	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left-turning %	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

7:00 AM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue				
	from North					from East					from South					from Southwest					from West				
	Right	Left	Thru	Left	U-turn	Right	Thru	Left	Left	U-turn	Right	Thru	Left	Left	U-turn	Right	Thru	Left	Left	U-turn	Right	Thru	Left	Left	U-turn
7:00 AM	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	87.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.877	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Buses	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single Unit Trucks	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit %	0.0	0.0	0.0	0.0	0.0	0.0	54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**PRECISION  
DATA**  
ANALYTICAL SYSTEMS

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100 Main Street • Suite 601 • Princeton, NJ 08540-7909  
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 E-mail: sales@precisiondata.com

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

Page 4



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolke  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



### Single-Unit Trucks

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Left	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Right	Thru	Left	U Turn	Total
7:00 AM	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	11	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	30	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.4	28.6	0.0	0.0	0.0	0.0	100.0	0.0	0.0	20.0	60.0	0.0	20.0	0.0	0.0	0.0	0.0	2.8	97.2	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	14.3	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	3.6	0.0	1.2	0.0	0.0	0.0	0.0	1.2	41.7	0.0	0.0	0.0	0.0
Following Leg Total	0						0						0						0						0					

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Left	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Right	Thru	Left	U Turn	Total
7:00 AM	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.4	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	60.0	0.0	20.0	0.0	0.0	0.0	0.0	2.8	97.2	0.0	0.0	0.0	0.0
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.534	0.175	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Following Leg	0	0	0	0	0	0	0	18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Following Leg	0						0						0						0						0					
Total	0						0						0						0						0					



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



### Articulated Trucks

Class	INTERSECTED FLIGHTS																											
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue							
	from North					from East					from South					from Southwest					from West							
	Right	Thru	Left	U-Left	Total	Right	Thru	Left	U-Left	Total	Right	Thru	Left	U-Left	Total	Right	Thru	Left	U-Left	Total	Right	Thru	Left	U-Left	Total	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	5	6	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	
Total	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	6	8	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	
Total	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4	
Grand Total	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	8	12	
Approach per %	0.0	0.0	0.0	0.0	0.0	0.0	75.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Factor %	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Turning reg total	0					2					0					0					1					5		12

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total
	from North					from East					from South					from Southwest					from West					
	Right	Left	Thru	U-Left	U-Right	Right	Thru	Left	U-Left	U-Right	Right	Thru	Left	U-Left	U-Right	Right	Thru	Left	U-Left	U-Right	Right	Thru	Left	U-Left	U-Right	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total volumes	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5
% Approach factor	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Factor	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000
Turning reg	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5
Factor	0					4					0					0					1					16



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
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 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



Bicycles (on Roadway and Crosswalks)

Class	Bicycles (on Roadway and Crosswalks)																										
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total	
	from North					from East					from South					from Southwest					from West						
	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from	from
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feeling (mg) Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

Peak Hour Analysis from 8:00 AM to 8:30 AM (Average)																											
8:00 AM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total	
	from North					from East					from South					from Southwest					from West						
	Approach	Left	Thru	Right	Other	Approach	Left	Thru	Right	Other	Approach	Left	Thru	Right	Other	Approach	Left	Thru	Right	Other	Approach	Left	Thru	Right	Other		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
6 Approaches in Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4
PHF																											
0.00																											



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



End Time: 9:00 AM		Pedestrians																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Class:	Driveway												Massachusetts Avenue												Appleton Place												Appleton Street												Massachusetts Avenue												Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

Peak Hour Analysis from 7:00 AM to 7:30 AM Begins at																										
7:00 AM	Driveway				Massachusetts Avenue				Appleton Place				Appleton Street				Massachusetts Avenue				Total					
	from North				from East				from South				from Southwest				from West									
	W	SW	E	N	W	SW	E	N	W	SW	E	N	W	SW	E	N	W	SW	E	N						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	
7:00 to 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	335	
6. Approach to Interchange	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	369	
Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	369	
Interchange	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	335	
Interchange	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	335	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	369	



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nilsch Eng/B.Zimolke  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Cars and Heavy Vehicles (Combined)

Class	Car and Heavy Vehicles (Continued)																														
	Driveway						Massachusetts Avenue						Appleton Place					Appleton Street					Massachusetts Avenue								
	from North						from East						from South					from Southwest					from West								
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total
4:00 PM	1	0	0	0	0	1	1	88	39	0	0	124	2	0	2	0	4	1	46	0	3	0	50	1	2	53	1	0	50	124	267
4:15 PM	1	0	0	0	0	1	0	71	30	0	0	101	0	0	1	1	0	2	0	51	0	4	0	55	2	1	101	0	0	102	274
4:30 PM	1	1	0	0	0	2	0	84	27	0	0	113	0	0	1	0	0	1	2	57	0	3	0	62	1	5	97	2	0	100	278
4:45 PM	0	0	0	0	0	0	1	85	47	1	0	133	2	0	2	2	0	6	1	35	1	1	0	37	1	2	108	0	0	111	307
Total	3	1	0	0	0	4	2	324	143	1	0	472	4	0	6	5	0	25	4	203	1	13	0	221	5	14	400	3	0	417	1136
5:00 PM	1	0	0	0	0	1	1	77	39	1	0	118	2	0	2	0	0	4	1	74	0	1	0	76	1	0	89	0	0	92	291
5:15 PM	0	1	0	0	0	1	0	66	20	0	0	86	5	1	0	1	0	6	2	86	0	2	0	90	1	3	109	1	0	114	298
5:30 PM	1	0	0	0	0	1	0	78	20	0	0	98	4	0	4	2	0	10	1	87	0	4	0	93	1	5	108	2	0	116	318
5:45 PM	1	0	0	0	0	1	1	88	31	0	0	120	5	0	2	0	0	7	1	70	0	3	0	74	4	1	105	0	0	110	310
Total	4	1	0	0	0	5	2	309	110	1	0	425	14	1	6	3	0	28	5	317	0	10	0	327	8	9	411	3	0	417	1217
Grand Total	6	2	0	0	0	8	4	633	253	4	0	894	18	1	14	8	0	41	9	520	1	23	0	543	16	23	811	6	0	846	2353
Approach %	66.7	22.2	0.0	11.1	0.0	0.0	0.0	70.8	28.3	0.0	0.0	43.9	2.4	34.1	19.5	0.0	0.0	16	94.0	0.2	4.2	0.0	0.0	1.9	2.7	94.7	0.7	0.0	0.0	0.0	
Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	10.8	0.0	0.0	38.0	0.0	0.0	33.0	0.0	1.7	0.4	22.1	0.0	1.0	0.0	21.5	0.7	1.0	94.9	0.3	0.0	0.0	0.0	
Left/Right Total	12	1	0	0	0	13	13	13	13	1	0	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
Cars	6	2	0	0	0	8	4	616	251	4	0	874	18	1	14	8	0	41	9	512	1	23	0	535	16	23	791	6	0	834	2306
% Cars	100.0	100.0	0.0	100.0	0.0	100.0	100.0	97.3	99.2	100.0	0.0	97.9	100.0	100.0	100.0	0.0	100.0	100.0	98.5	100.0	100.0	0.0	98.6	100.0	100.0	97.5	100.0	0.0	0.0	97.1	98.0
Heavy Vehicles	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.8	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.4	0.0	0.0	2.5	0.0	0.0	2.1	2.0
Left/Right Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
	from North						from East						from South						from Southwest						from West						
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total
5:00 PM	1	0	0	0	0	1	1	77	39	1	0	118	2	0	2	0	0	4	1	74	0	1	0	76	1	0	89	0	0	92	291
5:15 PM	0	1	0	0	0	1	0	66	20	0	0	86	5	1	0	1	0	7	2	86	0	2	0	90	1	3	109	1	0	114	298
5:30 PM	1	0	0	0	0	1	0	78	20	0	0	98	4	0	4	2	0	10	1	87	0	4	0	93	1	5	108	2	0	116	318
5:45 PM	1	0	0	0	0	1	1	88	31	0	0	120	5	0	2	0	0	7	1	70	0	3	0	74	4	1	105	0	0	110	310
Total Volume	4	1	0	0	0	5	2	309	110	1	0	427	14	1	6	3	0	28	5	317	0	10	0	327	8	9	411	3	0	417	1217
% Approach Total	60.0	20.0	0.0	20.0	0.0	0.0	0.0	73.7	28.1	0.0	0.0	51.8	1.9	30.8	11.5	0.0	0.0	1.5	94.9	0.0	3.0	0.0	0.0	2.1	2.1	94.1	0.7	0.0	0.0	0.0	0.0
Turn	0.750	0.250	0.000	0.250	0.000	0.833	0.500	0.878	0.705	0.250	0.000	0.889	0.703	0.297	0.173	0.000	0.930	0.625	0.911	0.000	0.625	0.000	0.900	0.563	0.450	0.943	0.375	0.000	0.911	0.957	
Cars	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Cars %	100.0	100.0	0.0	100.0	0.0	100.0	100.0	97.4	99.1	100.0	0.0	97.9	100.0	100.0	100.0	0.0	100.0	100.0	99.4	0.0	100.0	0.0	99.4	100.0	100.0	97.6	100.0	0.0	0.0	97.7	98.3
Heavy Vehicles	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.9	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.0	2.4	0.0	0.0	2.3	1.7	
Cars Enter Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Left/Right Leg	3	1	0	0	0	4	2	309	110	1	0	424	14	1	6	3	0	26	5	317	0	10	0	322	8	9	411	3	0	415	1217
Cars Entry Leg	3	1	0	0	0	4	2	301	109	1	0	413	14	1	6	3	0	26	5	315	0	10	0	320	8	9	401	3	0	412	1196
Heavy Vehicles Leg	0	0	0	0	0	0	0	17	2																						



POI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B. Zimoika  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Class	Cars																									
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					
	from North					from East					from South					from Southwest					from West					
	Right	Left	Thru	U turn	Total	Right	Thru	Left	U turn	Total	Right	Thru	Left	U turn	Total	Right	Thru	Left	U turn	Total	Right	Thru	Left	U turn	Total	
4:00 PM	1	0	0	0	1	1	82	38	0	121	2	0	2	0	4	1	48	0	0	48	1	2	16	1	100	276
4:15 PM	1	0	0	0	1	0	69	30	0	99	0	0	1	1	2	0	50	0	0	50	2	5	18	0	100	261
4:30 PM	1	0	0	0	1	0	81	27	2	110	0	0	0	0	1	2	56	0	0	56	1	5	11	2	93	273
4:45 PM	0	0	0	0	0	1	89	47	1	137	2	0	2	0	4	1	47	1	0	48	3	2	10	0	110	300
Total	3	0	0	0	3	2	321	142	3	462	4	0	4	1	15	4	197	1	13	215	5	14	39	3	616	1510
5:00 PM	1	0	0	0	1	1	72	38	1	112	2	0	0	0	4	1	74	0	1	75	1	0	16	0	89	282
5:15 PM	0	0	0	0	0	0	66	20	0	86	0	0	1	0	1	2	86	0	2	90	1	3	16	0	111	295
5:30 PM	1	0	0	0	1	0	77	20	0	97	4	0	4	2	10	1	86	0	0	86	1	5	105	2	111	313
5:45 PM	1	0	0	0	1	1	86	11	0	116	3	0	2	0	5	1	69	0	1	70	1	1	14	0	104	306
Total	3	0	0	0	3	2	301	109	1	413	14	1	7	1	26	5	315	0	10	325	8	9	40	3	422	1198
Grand Total	6	0	0	0	6	4	616	251	4	875	18	1	14	2	41	9	512	1	23	535	10	23	71	6	896	2306
Approach %	66.7	22.2	0.0	11.1	100	0.5	70.4	28.7	0.5	100	43.9	2.4	34.1	19.5	0.0	1.7	93.9	0.2	4.2	100	1.9	2.8	94.6	0.7	100	
Left %	0.0	0.0	0.0	0.0	0.0	0.2	26.7	10.8	0.3	37.9	0.3	0.0	0.4	0.3	0.0	0.0	22.2	0.0	1.0	0.0	0.5	0.0	14.8	0.5	0.0	38.5
Right %	100	0	0	0	100	12	73.3	88.5	1.7	122	36	0	0	0	36	2	97.8	0	10	100	2.7	0	95.2	0.7	100	27.4

Peak Hour Analysis from 04:00 PM to 06:00 PM Begins at

5:00 PM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total
	from North					from East					from South					from Southwest					from West					
	Right	Left	Thru	Left	Right	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru				
	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count				
5:00 PM	1	0	0	0	0	1	72	28	1	0	112	2	0	2	0	0	4	1	12	0	1	0	93	282		
5:15 PM	0	0	0	0	0	0	66	20	0	0	86	5	1	0	1	0	7	7	85	0	2	0	94	295		
5:30 PM	1	0	0	0	0	2	0	77	20	0	97	4	0	4	2	0	10	1	86	0	4	0	91	313		
5:45 PM	1	0	0	0	0	1	1	86	11	0	118	3	0	2	0	0	5	1	63	0	1	0	71	318		
Total	3	0	0	0	0	5	139	129	1	0	413	14	1	6	3	0	26	5	315	0	10	0	330	1198		
% Approach Left or Right	66.7	20.0	0.0	0.0	0.0	0.5	70.9	26.3	0.2	0.0	93.8	3.8	0.0	11.3	0.0	0.0	4.2	5.1	95.3	0.0	3.0	0.0	97.1	95.9		
Left %	0.0	0.0	0.0	0.0	0.0	0.2	26.7	10.9	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Right %	0.0	0.0	0.0	0.0	0.0	0.3	73.3	89.1	0.2	0.0	95.1	3.8	0.0	11.3	0.0	0.0	0.0	0.0	95.3	0.0	3.0	0.0	97.1	95.9		
Thru %	0.0	0.0	0.0	0.0	0.0	0.2	26.7	10.9	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Left %	0.0	0.0	0.0	0.0	0.0	0.2	26.7	10.9	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Right %	0.0	0.0	0.0	0.0	0.0	0.3	73.3	89.1	0.2	0.0	95.1	3.8	0.0	11.3	0.0	0.0	0.0	0.0	95.3	0.0	3.0	0.0	97.1	95.9		
Thru %	0.0	0.0	0.0	0.0	0.0	0.2	26.7	10.9	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		



PDI File #: 207450 AA  
 Location: N: Driveway St; Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Massachusetts Avenue																											
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue							
	from North					from East					from South					from Southwest					from West							
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
4:00 PM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	1	8	
4:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	3	6
4:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	5	
4:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	2	0	0	1	0	1	7	
Total	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	10	26	
5:00 PM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	5	
5:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	4	
Total	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	2	0	0	0	2	0	0	1	0	10	21	
Grand Total	0	0	0	0	0	0	17	2	0	19	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	20	47	
Approach %	0.00	0.00	0.00	0.00	0.00	0.00	89.5	10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total %	0.00	0.00	0.00	0.00	0.00	0.00	16.2	4.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Entering Leg Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	47	
Buses	0	0	0	0	0	0	0	13	1	14	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	17	33	
Single Unit Trucks	0	0	0	0	0	0	0	76.5	50.0	126.5	0	0	0	0	0	0	0	25.0	0	0	0	0	0	0	0	85.0	211.5	
Articulated Trucks	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	16	
Grand Total	0	0	0	0	0	0	0	89.5	10.5	100.0	0	0	0	0	0	0	0	25.0	0	0	0	0	0	0	0	85.0	213.0	
Approach %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.5	0.00	0.00	0.00	62.5	0.00	0.00	0.00	0.00	100.0	213.0	
Entering Leg Total	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	16	
Articulated Trucks	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	16	
Approach %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.9	50.0	59.9	0.00	0.00	0.00	0.00	0.00	0.00	12.5	0.00	0.00	0.00	12.5	0.00	0.00	0.00	0.00	50.0	85.0	
Entering Leg Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

4:15 PM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total
	from North					from East					from South					from Southwest					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	12	1	0	13	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	10
% Approach Total	0.00	0.00	0.00	0.00	0.00	0.00	92.3	7.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bus	0.000	0.000	0.000	0.000	0.000	0.000	0.600	0.250	0.000	0.850	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000
Buses	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Single Unit Trucks	0	0	0	0	0	0	83.3	0.00	0.00	83.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83.3
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	3
Total	0	0	0	0	0	0	84.3	0.00	0.00	84.3	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	16
Approach %	0.00	0.00	0.00	0.00	0.00	0.00	1.1	0.00	0.00	1.1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3
Entering Leg	0	0	0	0	0	0	84.3	1.000	0.00	85.3	0	0	0	0	0	0	25.0	0.00	0.00	0.00	25.0	0	0	0	0	111
Buses	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Single Unit Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	6
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3
Entering Leg	0	0	0	0	0	0	12	1	0	13	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	27
Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				





**PRECISION  
DATA**  
INDUSTRIES, LLC

16 Morton Street Framingham MA 01701  
Call: 508 875 0100 Fax: 508 875 0110  
Email: [info@precisiondata.com](mailto:info@precisiondata.com)

## Buses

Class	Diversey												Massachusetts Avenue												Diversey												Appleton Street												Massachusetts Avenue											
	from North						from East						from South						from Southwest						from West																																			
	Right	Thru-Left	Thru	Left	U-Turn	Total	Right	Thru	Thru-Left	Thru	U-Turn	Total	Right	Thru	Thru-Left	Thru	U-Turn	Total	Right	Thru	Thru-Left	Thru	U-Turn	Total	Right	Thru	Thru-Left	Thru	U-Turn	Total																														
4:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5																													
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5																													
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2																													
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4																													
Total	0	0	0	0	0	0	0	7	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	17																													
5:00 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6																												
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3																													
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4																													
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3																													
Total	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	16																												
Grand Total	0	0	0	0	0	0	0	13	1	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	19	33																												
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.9	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0																														
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.4	1.0	0.0	0.0	42.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	51.5																														
Percentage Total	0						19						14						1						19						33																													

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

[illegible]



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TAD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class



Single-Unit Trucks

Class	Driveway																	Massachusetts Avenue							Appleton Place							Appleton Street							Massachusetts Avenue							Total
	from North							from East							from South							from Southwest							from West																	
	Right	Left	Thru	Left	Right	Total		Right	Thru	Left	Right	Left	Total		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Total		Right	Thru	Left	Right	Thru	Left	Total														
4:00 PM	0	0	0	0	0	0		0	1	0	0	0	1		0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	4													
4:15 PM	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1														
4:30 PM	0	0	0	0	0	0		0	1	0	0	0	1		0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3														
4:45 PM	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	1	3														
Total	0	0	0	0	0	0		0	2	0	0	0	2		0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	1	8	8													
5:00 PM	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
5:15 PM	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
5:30 PM	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
5:45 PM	0	0	0	0	0	0		0	1	0	0	0	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1														
Total	0	0	0	0	0	0		0	1	0	0	0	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1														
Grand Total	0	0	0	0	0	0		0	3	0	0	0	3		0	0	0	0	0	0	0	0	0	5	0	0	2	0	0	0	2	10	10													
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0														
Signal %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	30.0	0.0	0.0	0.0	30.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	20.0	0.0													
Lefting % of Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0														

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left Volume	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approaching Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.444
Lefting % of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B Zimolke  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Articulated Trucks

Class	Arbitrated Flows																	Arbitrated Flows																
	Driveway						Massachusetts Avenue						Appleton Place					Appleton Street					Massachusetts Avenue											
	from North						from East						from South					from Southwest					from West											
	Right	Left	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Grand Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Turning Leg Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

Total Flow Analysis from Signalized Intersections																																
4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue							
	from North						from East						from South						from Southwest						from West							
	Right	Left	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Right Leg	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Left Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



PDI File #: 207450 AA  
 Location: N: Driveway S; Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



**Bicycles (on Roadway and Crosswalks)**

Class:		Bicycles (on Highway and Crosswalks)																																																	
	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue										Total
	from North										from East										from South										from Southwest										from West										
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Apples 10%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Apples 20%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Walking Leg Factor	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

4:15 PM	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue										Total
	from North										from East										from South										from Southwest										from West										
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10											
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
W Appleton's Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Walking Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		





**PRECISION  
DATA**  
INDUSTRIES LLC

46 Motion Street Framingham, MA 01702  
Office 508 875 0160 Fax 508 875 0118  
Email [datapoints@precisiondata.com](mailto:datapoints@precisiondata.com)

Class:	Vehicles																																Total								
	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street									Massachusetts Avenue							
	from North								from East								from South								from Southwest									from West							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru		Right	Total						
4:00 PM	0	0	0	0	0	1	1	4	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	3	0	0	0	0	0	4	2	6	0	0	0	0	0	0	0	17	
4:15 PM	0	0	0	0	0	1	2	5	0	0	0	0	0	1	1	5	0	0	0	0	0	2	1	3	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	14	
4:30 PM	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5		
4:45 PM	0	0	0	0	0	6	2	8	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	12	
Total	0	0	0	0	0	13	2	26	0	0	0	0	0	6	1	2	0	0	0	0	0	6	3	9	0	0	0	0	0	8	3	11	0	0	0	0	0	1	1	48	
5:00 PM	0	0	0	0	0	1	0	3	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
5:15 PM	0	0	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	10		
5:30 PM	0	0	0	0	0	3	1	4	0	0	0	0	0	1	1	2	0	0	0	0	0	1	2	3	0	0	0	0	0	2	2	0	0	0	0	0	0	0	10		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
Total	0	0	0	0	0	9	0	16	0	0	0	0	0	4	2	2	0	0	0	0	0	2	2	4	0	0	0	0	0	2	2	4	0	0	0	0	1	1	32		
Grand Total	0	0	0	0	0	21	15	84	0	0	0	0	0	10	4	14	0	0	0	0	0	8	5	19	0	0	0	0	0	10	5	15	0	0	0	0	0	2	2	80	
Approach %	0	0	0	0	0	58.3	41.7		0	0	0	0	0	71.4	28.6		0	0	0	0	0	81.5	38.5		0	0	0	0	66.7	33.3		0	0	0	0	0	100				
Loop %	0	0	0	0	0	76.9	18.8	40	0	0	0	0	0	12.5	5	17.5	11	0	0	0	0	0	10	6.25	16.5	0	0	0	0	12.5	6.25	18.8	0	0	0	0	0	0	0		
Entering Leg Total	50								14								15								15								2								89

[illegible]



PDI File #: 207450 9BCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Cars and Heavy Vehicles (Combined)

Class:	Curb and Heavy Vehicles (Continued)																														
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Standst	U Turn	Total	Standst	Thru	Left	Standst	U Turn	Total	Standst	Right	Thru	Left	U Turn	Total	Standst	Thru	Left	U Turn	Total	Standst	Thru	Left	U Turn	Total	Total		
4:00 PM	28	1	5	0	0	34	1	1	0	0	0	2	1	22	95	2	0	123	1	0	0	0	0	1	0	122	1	23	0	146	303
4:15 PM	16	2	6	0	0	24	1	1	0	1	0	2	0	15	82	0	0	98	2	0	1	0	0	3	1	113	0	43	0	159	285
4:30 PM	14	0	15	0	0	29	2	5	0	0	0	7	2	13	96	0	0	111	0	0	0	0	0	0	1	115	1	24	0	151	302
4:45 PM	27	0	6	0	0	33	1	6	0	1	0	8	1	18	94	0	0	113	0	0	0	0	0	0	0	112	1	21	0	133	308
Total	87	3	32	0	0	122	5	13	0	1	0	23	4	69	367	2	0	442	3	0	1	0	0	4	2	492	1	121	0	608	1198
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	24	96	0	0	121	0	0	1	0	0	1	0	116	3	50	0	169	329
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	23	72	0	0	96	2	0	0	1	0	3	1	133	1	55	0	198	321
5:30 PM	13	0	8	0	0	21	0	4	0	3	0	7	0	17	82	0	0	99	2	0	1	0	0	3	1	148	1	49	0	200	330
5:45 PM	16	3	11	0	0	30	2	1	0	0	0	3	0	20	102	1	0	123	4	0	1	0	0	5	0	117	3	40	0	178	345
Total	63	4	38	0	0	105	5	12	0	6	0	23	2	84	353	1	0	441	8	0	3	1	0	12	2	540	6	194	1	740	1324
Grand Total	152	7	70	0	0	229	10	25	0	10	0	45	6	154	719	5	0	883	11	0	4	1	0	16	4	1022	9	315	1	1341	2524
Approach %	66.4	3.1	30.6	0.0	0.0	1	22.2	55.6	0.0	22.2	0.0	1	0.7	17.3	81.4	0.6	0.0	68.8	0.0	25.0	6.3	0.0	0.0	0.3	75.6	0.7	23.3	0.1			
Total %	8.0	0.9	2.9	0.0	0.0	8.1	0.4	1.0	0.0	3.3	0.0	1.3	0.2	6.3	28.5	0.7	0.0	35.0	0.4	0.0	0.2	0.0	0.0	0.4	0.2	60.5	0.4	17.5	0.0	33.3	
Leaving Leg Total	482						131						1113						34						898						2574
Cars	152	7	70	0	0	229	10	25	0	9	0	46	6	150	698	5	0	858	11	0	4	1	0	16	8	999	9	312	1	1320	2472
Heavy Vehicles	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	90.0	0.0	97.8	100.0	98.0	97.1	100.0	0.0	97.2	100.0	0.0	100.0	0.0	100.0	100.0	97.7	100.0	99.0	100.0	98.1	98.0	
Leaving Leg Total	478						131						1089						16						877						2472
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	3	21	0	0	24	0	0	0	0	0	0	0	23	0	3	0	26	51
Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	2.2	0.0	2.0	2.9	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.0	0.0	1.9	2.0
Leaving Leg Total	6						6						24						0						0						31

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

5:00 PM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total
	from North										from Northeast										from East										from South										from West										
	Right	Thru	Left	Standst	U Turn	Total	Standst	Thru	Left	Standst	U Turn	Total	Standst	Right	Thru	Left	U Turn	Total	Standst	Thru	Left	U Turn	Total	Standst	Thru	Left	U Turn	Total	Standst	Thru	Left	U Turn	Total																		
	Right	Thru	Left	Standst	U Turn	Total	Standst	Thru	Left	Standst	U Turn	Total	Standst	Right	Thru	Left	U Turn	Total	Standst	Thru	Left	U Turn	Total	Standst	Thru	Left	U Turn	Total	Standst	Thru	Left	U Turn	Total																		
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	24	96	0	0	121	0	0	1	0	0	1	0	116	3	50	0	0	169	329																			
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	22	72	0	0	96	2	0	0	1	0	3	1	133	1	55	0	0	198	321																			
5:30 PM	12	0	8	0	0	20	0	4	0	3	0	7	0	17	92	0	0	99	2	0	1	0	0	3	1	148	1	49	0	0	200	330																			
5:45 PM	16	3	11	0	0	30	2	1	0	0	0	3	0	20	102	1	0	125	4	0	1	0	0	5	0	117	3	40	0	0	178	345																			
Total	63	4	38	0	0	105	5	12	0	6	0	23	2	84	353	1	0	441	8	0	3	1	0	12	2	540	6	194	0	0	740	1324																			
% Approach	66.4	3.1	30.5	0.0	0.0	1	21.9	52.2	0.0	26.1	0.0	1	0.7	17.3	81.4	0.6	0.0	68.8	0.0	25.0	6.3	0.0	0.0	0.3	75.6	0.7	23.3	0.1																							
% Approach	8.0	0.9	2.9	0.0	0.0	8.1	0.4	1.0	0.0	3.3	0.0	1.3	0.2	6.3	28.5	0.7	0.0	35.0	0.4	0.0	0.2	0.0	0.0	0.4	0.2	60.5	0.4	17.5	0.0																						
Leaving Leg Total	482										131										1113										34										898										2574
Cars	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	0	743	1300																			
Heavy Vehicles	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	90.0	0.0	95.7	100.0	97.6	98.6	100.0	0.0	96.8	100.0	0.0	100.0	100.0	100.0	100.0	97.7	100.0	99.0	100.0	98.1	98.0																					
Leaving Leg Total	478										131										1089										16										877										2472
Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	2.2	0.0	2.0	2.9	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.0	0.0	1.9	2.0																				
Leaving Leg Total	6										6										24										0										0										31
Total	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	0	743	1300																			
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	2	12	0	0	14	2	0	0	0	0	0	0	10	0	1	0	0	21	28																			
Total	65	4	38	0	0	107	5	12	0	5	0	23	2	84	342	4	0	441	8	0	3	1	0	12	2	540	6	194	1	0	743	1324																			
Cars	283										98										519										9										415										1300
Heavy Vehicles	1										0										21										0										32										26
Total	284										98										540										9										447										1326



PDI File #: 207450 B6CC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Mitsch Eng'g/8.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Class:	Forest Street										Cars										Burton Street										Massachusetts Avenue										
	from North					from Northeast					from East					from South					from West																				
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total									
4:00 PM	25	1	5	0	0	31	3	3	0	0	0	3	1	21	93	0	0	117	1	0	0	0	0	1	0	118	1	23	0	0	142	256									
4:15 PM	19	2	0	0	0	21	1	1	0	1	0	2	0	16	80	0	0	96	2	0	1	0	0	1	1	110	0	42	0	0	153	279									
4:30 PM	18	0	14	0	0	32	2	5	0	0	0	7	2	13	93	0	0	108	0	0	0	0	0	0	1	113	1	4	0	0	118	287									
4:45 PM	27	0	0	0	0	27	1	4	0	3	0	8	1	18	92	0	0	111	0	0	0	0	0	0	0	128	1	20	0	0	149	301									
Total	87	3	19	0	0	109	7	13	0	4	0	22	4	68	358	0	0	422	4	0	1	0	0	4	2	469	3	69	0	0	541	1478									
5:00 PM	18	0	11	0	0	29	1	4	0	2	0	7	1	22	90	0	0	113	0	0	1	0	0	1	0	113	1	50	0	0	164	318									
5:15 PM	15	1	8	0	0	24	0	3	0	1	0	2	1	23	71	0	0	95	2	0	0	1	0	3	1	136	1	55	0	0	193	317									
5:30 PM	13	0	8	0	0	21	0	4	0	2	0	6	0	17	81	0	0	98	2	0	1	0	0	1	1	146	1	48	1	0	197	325									
5:45 PM	19	1	11	0	0	31	2	3	0	0	0	5	0	20	98	0	0	121	4	0	1	0	0	5	0	135	1	30	0	0	166	341									
Total	83	4	38	0	0	125	3	14	0	5	0	23	2	82	340	0	0	422	8	0	1	1	0	12	2	530	6	193	1	0	724	1500									
Grand Total	152	7	70	0	0	229	10	25	0	8	0	44	6	150	698	0	0	853	11	0	4	1	0	16	4	999	9	312	1	0	1312	2473									
Approach %	66.4	3.1	30.6	0.0	0.0		22.7	56.8	0.0	20.5	0.0		0.7	17.5	81.3	0.6	0.0		68.8	0.0	25.0	6.3	0.0		0.3	75.4	0.7	23.5	0.1												
Turn %	6.1	0.3	2.8	0.0	0.0	9.3	0.4	1.0	0.0	0.4	0.0	1.6	0.2	6.1	25.2	0.2	0.0	34.2	0.4	0.0	0.2	0.0	0.0	0.8	0.2	40.4	0.4	12.8	0.0	53.8											
Intersecting Total						476						15						1089						16						877	2473										

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue									
	from North					from Northeast					from East					from South					from West																													
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Total																					
5:00 PM	18	0	11	0	0	29	1	4	0	2	0	7	1	22	90	0	0	113	0	0	1	0	0	1	0	113	3	50	0	166	318																			
5:15 PM	15	1	8	0	0	24	0	3	0	1	0	2	1	23	71	0	0	95	2	0	0	1	0	3	1	136	1	55	0	193	317																			
5:30 PM	13	0	8	0	0	21	0	4	0	2	0	6	0	17	81	0	0	98	2	0	1	0	0	1	1	146	1	48	1	197	325																			
5:45 PM	19	1	11	0	0	31	2	3	0	0	0	5	0	20	98	0	0	121	4	0	1	0	0	5	0	135	1	30	0	166	341																			
Total Approach	65	4	38	0	0	107	3	14	0	5	0	22	2	82	340	0	0	422	8	0	1	1	0	12	2	530	6	193	1	731	1300																			
Turn %	0.8	0.1	0.35	0.0	0.0	0.8	0.2	0.5	0.0	0.2	0.0	0.8	0.5	0.19	0.77	0.0	0.0	0.8	0.6	0.0	0.25	0.3	0.0	0.8	0.5	0.25	0.3	0.28	0.4	0.94																				
Intersecting Total	85	4	38	0	0	127	5	12	0	5	0	22	2	82	347	0	0	422	8	0	1	1	0	12	2	530	6	193	1	731	1300																			
Total						290						25						1009						21						877	2473																			



PDI File #: 207450 38CC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

Class	Heavy Vehicles Confirmed (Buses, Single Unit Trucks, Articulated Trucks)																																
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total		
	from North						from Northeast						from East						from South						from West								
	Right	Thru	Left	U-Turn	U-Turn	Total	Right	Thru	Left	U-Turn	U-Turn	Total	Right	Thru	Left	U-Turn	U-Turn	Total	Right	Thru	Left	U-Turn	U-Turn	Total	Right	Thru	Left	U-Turn	U-Turn	Total			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0		4	7
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	8	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	7	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	25	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	11	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	8	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	28
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	21	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	23	51
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	12.5	87.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.5	0.0	11.5	0.0	0.0	69.2	66.7
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0	5.9	41.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.1	0.0	9.8	0.0	0.0	51.0	51.0
Waiting seg Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	16	34
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76.2	0	0	0	0	0	0	0	0	0	0	0	76.2	0	0	0	0	76.2	66.7
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.4	0.0	100.0	0.0	26.9	29.4	29.4
% Articulated Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Articulated Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Waiting seg Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	U-Turn	U-Turn	Total	Right	Thru	Left	U-Turn	U-Turn	Total	Right	Thru	Left	U-Turn	U-Turn	Total	Right	Thru	Left	U-Turn	U-Turn	Total	Right	Thru	Left	U-Turn	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Ambulance Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PH	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Following Way	0	0	0	0	0	0	0	0	0	0	0	0	0	2	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Following Way	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Following Way	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: NRSch Eng/B.Zlotnicka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Buses

Class	DISES																																	
	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue													
	from North					from Northeast					from East					from South					from West													
	Right	Thru	Left	Hard Left	U Turn	Total	Hard Right	Thru Right	Hard Left	Hard Left	U Turn	Total	Hard Right	Right	Thru	Left	U Turn	Turner		Right	Thru Right	Thru	Left	U Turn	Total	Right	Thru	Thru Left	Left	U Turn	Total	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	5	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	1	5	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	2	4	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	6	0	0	0	9	17
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	3	0	0	0	2	4	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	4	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	4	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	2	4	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	8	0	0	0	4	17
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	16	0	0	0	0	0	0	0	0	0	18	0	0	0	18	34
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
Initial %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0	0.0	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	0.0	0.0	0.0	0.0	52.9
Sampling Total	0					0					18					0					16							34						

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue					
	from North					from Northeast					from East					from South					from West					
	Right	Thru	Left	Hard Left	U Turn	Right	Thru	Left	Hard Left	U Turn	Right	Thru	Left	Hard Left	U Turn	Right	Thru	Left	Hard Left	U Turn	Right	Thru	Left	Hard Left	U Turn	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	8
Total volume	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	18
% Approach % Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
End of Day	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	18
Sampling	0					0					10					0					10					18
Total	0					0					10					0					10					38



PDI File #: 207450 8BCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B Zimolke  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Single-Unit Trucks

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue					
	from North						from Northeast						from East						from South						from West					
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Righting Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue					
	from North						from Northeast						from East						from South						from West					
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Left %	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Righting Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lefting Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class



### Articulated Trucks

CLASS	ARTICULATED TRUCKS																																
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue								
	from North						from Northeast						from East						from South						from West								
	Right	Thru	Left	From Left	U-Turn	Total	Right	Thru	Left	From Left	U-Turn	Total	Right	Thru	Left	From Left	U-Turn	Total	Right	Thru	Left	From Left	U-Turn	Total	Right	Thru	Left	From Left	U-Turn	Total	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	
Approach N %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	50.0		
Sampling Total	0						0						1						0						1						2		

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM		Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
		from North						from Northeast						from East						from South						from West						
		Right	Thru	Left	From Left	U-Turn	Total	Right	Thru	Left	From Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	From Left	U-Turn	Total	Total		
4:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
4:45 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
Total Volume		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	
Approach Total		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0	
W11		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.500	
Intersecting & Approaching		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	
Total		0						0						1						0						1						2



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng'g Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Bicycles (on Roadway and Crosswalks)

Class	Streets of Massachusetts Avenue and Surrounding																										Total				
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
	from North						from Northeast						from East						from South						from West						
	W	SW	S	SE	E	NE	W	SW	S	SE	E	NE	W	SW	S	SE	E	NE	W	SW	S	SE	E	NE	W	SW	S	SE	E	NE	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue					
	from North					from Northeast					from East					from South					from West					Total
	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach Road	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waiting (s)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waiting (s)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





PRECISION  
DATA  
DATA MANAGEMENT

400 West 100 Street • Irving, NJ 07033  
TEL: 201 996-0100 FAX: 201 996-0110  
E-MAIL: [info@precisiondata.com](mailto:info@precisiondata.com)

Class		Pedestrians																																																
		Forest Street from North						Mirak Mill Park West Driveway from Northeast						Massachusetts Avenue from East						Burton Street from South						Massachusetts Avenue from West						Total																		
		W	T	F	S	S	S	W	T	F	S	S	S	W	T	F	S	S	S	W	T	F	S	S	S	W	T	F	S	S	S	W	T	F	S	S	S	W	T	F	S	S	S							
4:00 PM		0	0	0	0	2	0	2	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	0	0	0	0	0	0	0	0	0	2	2		10				
4:15 PM		0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5	0	0	0	0	0	0	0	0	3	1	4		12			
4:30 PM		0	0	0	0	0	1	1	2	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5		1			
4:45 PM		0	0	0	0	0	5	7	9	0	0	0	0	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	3	5	0	0	0	0	0	0	0	0	1	0	1	21				
Total		0	0	0	0	0	8	4	12	0	0	0	0	0	9	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	8	11	0	0	0	0	0	0	0	5	3	8		45				
5:00 PM		0	0	0	0	0	1	0	1	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	7		7			
5:15 PM		0	0	0	0	0	0	1	1	0	0	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	1	1	16		16			
5:30 PM		0	0	0	0	0	2	0	2	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	10		10			
5:45 PM		0	0	0	0	0	0	1	1	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5		5			
Total		0	0	0	0	0	2	4	10	0	0	0	0	0	8	6	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	10	0	0	0	0	0	0	0	1	1	4		38			
Gross Total		0	0	0	0	0	15	8	29	0	0	0	0	0	17	11	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	13	29	0	0	0	0	0	0	6	6	12		86				
Apple %	%	0	0	0	0	0	65.2	34.8	0	0	0	0	0	60.7	39.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43.5	56.5	0	0	0	0	0	0	0	50	50								
Ped %	%	0	0	0	0	0	17.8	9.9	26.1	0	0	0	0	0	19.8	12.8	32.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.6	15.1	24.7	0	0	0	0	0	0	0	0	0	14		14				
Walking and Total		29						28						24						24						12						86																		

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

[illegible]



PDI File #: 207450 BC  
 Location: N: Forest Street S: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



Cars and Heavy Vehicles (Combined)

	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total
	from North										from Northeast										from East										from South										from West										
	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total															
7:00 AM	46	4	20	0	0	70	0	1	0	0	0	1	0	8	90	0	0	98	1	2	1	0	0	4	0	88	2	13	0	0	0	103	0	106	3	10	0	119	0	163	0	274									
7:15 AM	40	3	19	1	0	63	0	0	0	0	0	0	1	6	75	0	0	82	3	0	0	0	0	3	0	106	3	10	0	0	0	119	0	106	3	10	0	119	0	271											
7:30 AM	53	11	14	0	0	77	0	0	0	0	0	0	3	29	102	1	1	135	8	0	2	0	0	10	0	97	2	22	0	0	121	0	97	2	22	0	121	0	344												
7:45 AM	43	9	20	0	0	72	0	0	0	0	0	0	0	25	116	5	0	146	9	0	1	0	0	10	0	111	5	25	0	0	131	0	111	5	25	0	131	0	373												
Total	190	27	66	1	0	284	0	1	0	0	0	1	4	68	183	6	1	462	23	0	10	0	0	34	0	402	12	70	0	0	484	0	402	12	70	0	484	0	1264												
8:00 AM	57	1	21	0	0	79	1	0	0	1	0	2	2	27	124	2	0	155	0	0	0	0	0	0	1	82	4	28	0	0	115	0	82	4	28	0	115	0	351												
8:15 AM	43	1	11	0	0	55	0	0	0	0	0	0	1	13	90	0	0	104	1	1	0	0	0	2	0	93	8	13	0	0	115	0	93	8	13	0	115	0	276												
8:30 AM	31	0	10	1	0	42	0	0	0	0	0	0	0	14	93	0	0	107	4	0	2	1	0	7	0	103	4	13	0	0	120	0	103	4	13	0	120	0	276												
8:45 AM	28	1	10	1	0	40	0	0	0	2	0	2	1	34	115	0	0	150	2	0	0	2	0	4	0	98	8	11	0	0	115	0	98	8	11	0	115	0	280												
Total	159	3	52	2	0	216	1	0	0	1	0	4	4	68	422	2	0	498	7	1	2	3	0	13	1	376	21	64	0	0	465	1	376	21	64	0	465	1	1194												
Grand Total	349	30	118	3	0	500	1	1	0	3	0	5	8	136	805	8	1	958	30	1	12	3	0	46	1	778	33	137	0	0	948	2	778	33	137	0	948	2	2458												
Approach %	68.8	6.0	23.6	0.6	0.0	100.0	20.0	20.0	0.0	60.0	0.0	0.2	0.8	14.2	84.0	0.8	0.1	65.2	2.2	2.6	1.6	6.5	0.0	0.3	82.0	3.5	14.4	0.0	0.0	91.7	0.2	91.7	3.5	14.4	0.0	92.7	0.2	94.1													
Total %	18.2	1.2	4.8	0.1	0.0	20.1	0.0	0.0	0.0	0.1	0.0	0.2	0.3	9.5	32.8	0.3	0.0	85.0	1.2	0.0	0.5	0.1	0.0	1.3	0.0	81.7	1.8	5.6	0.0	0.0	88.6	0.1	88.6	1.8	5.6	0.0	90.6	0.1	91.4												
Waiting Leg Total						284						45						850						34														1154		2458											
Cars	340	30	113	1	0	484	1	1	0	3	0	5	8	132	749	8	1	898	30	1	12	3	0	45	1	713	33	133	0	0	880	2	713	33	133	0	880	2	2114												
% Cars	97.4	100.0	95.8	100.0	0.0	96.8	100.0	100.0	0.0	100.0	0.0	100.0	100.0	97.1	93.0	100.0	91.7	100.0	100.0	100.0	66.7	0.0	97.8	100.0	91.6	100.0	97.1	0.0	0.0	92.7	0.2	92.7	3.5	14.4	0.0	92.7	0.2	94.1													
Waiting Leg Total						278						41						800						29														1079		2114											
Heavy Vehicles	9	0	5	0	0	14	0	0	0	0	0	0	0	4	56	0	0	60	0	0	0	1	0	1	0	65	0	4	0	0	69	0	65	0	4	0	69	0	144												
% Heavy Vehicles	2.6	0.0	4.2	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	7.0	0.0	0.3	0.0	0.0	0.0	33.3	0.0	2.2	0.0	8.4	0.0	2.9	0.0	0.0	7.3	0.0	7.3	0.0	2.9	0.0	7.3	0.0	5.9													
Waiting Leg Total						8						0						70						0														65		144											

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

7:30 AM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total
	from North										from Northeast										from East										from South										from West										
	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total	Right	Thru	Left	Standstill	U-Turn	Total															
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
7:30 AM	53	11	13	0	0	77	0	0	0	0	0	0	3	29	102	1	1	116	8	0	2	0	0	10	0	97	2	22	0	0	121	0	97	2	22	0	121	0	344												
7:45 AM	41	9	20	0	0	70	0	0	0	0	0	0	0	25	116	5	0	146	9	0	1	0	0	10	0	111	5	25	0	0	131	0	111	5	25	0	131	0	373												
8:00 AM	57	1	21	0	0	79	1	0	0	1	0	2	2	27	124	2	0	155	0	0	0	0	0	0	1	82	4	28	0	0	115	0	82	4	28	0	115	0	351												
8:15 AM	43	1	11	0	0	55	0	0	0	0	0	0	1	13	90	0	0	104	1	1	0	0	0	2	0	93	8	13	0	0	115	0	93	8	13	0	115	0	276												
Total Volume	194	22	65	0	0	281	1	0	0	1	0	2	4	68	432	8	1	541	18	1	9	0	0	29	1	402	12	70	0	0	484	0	402	12	70	0	484	0	1264												
% Approach %	68.0	6.0	23.1	0.0	0.0	100.0	20.0	0.0	0.0	60.0	0.0	0.2	0.8	14.0	84.0	0.8	0.1	65.2	2.2	2.6	1.6	6.5	0.0	0.3	82.0	3.5	14.4	0.0	0.0	91.7	0.2	91.7	3.5	14.4	0.0	92.7	0.2	94.1													
Total %	0.851	0.500	0.774	0.000	0.000	0.883	0.250	0.000	0.000	0.250	0.000	0.250	0.1	0.310	0.381	0.000	0.250	0.674	0.500	0.250	0.321	0.000	0.000	0.434	0.250	0.863	0.556	0.776	0.000	0.872	0.434	0.901	0.556	0.872	0.434	0.901	0.556	0.872	0.434	0.901											
Cars	191	22	63	0	0	276	1	0	0	1	0	2	4	63	407	8	1	515	18	1	9	0	0	28	1	347	12	65	0	0	465	0	347	12	65	0	465	0	1194												
Cars %	98.5	100.0	96.9	0.0	0.0	98.2	100.0	0.0	0.0	100.0	0.0	100.0	100.0	98.9	94.2	100.0	95.2	100.0	100.0	100.0	0.0	0.0	100.0	100.0	90.6	100.0	96.6	0.0	0.0	92.1	0.2	92.1	3.5	14.4	0.0	92.1	0.2	94.8													
Heavy Vehicles	3	0	2	0	0	5	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	0	39	0	36	0	3	0	39	0	70												
Heavy Vehicles %	1.5	0.0	3.1	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	3.4	0.0	0.0	7.9	0.0	7.9	0.0	5.2	0.0	5.2														
Cars Entering Leg	191	22	63	0	0	276	1	0	0	1	0	2	4	63	407	8	1	515	18	1	9	0	0	28	1	347	12	65	0	0	465	0	347	12	65	0	465	0	1194												
Heavy Entering Leg	3	0	2	0	0	5	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	0	39	0	36	0	3	0	39	0	70												
Total Entering Leg	194	22	65	0	0	281	1	0	0	1	0	2	4	64	432	8	1	541	18	1	9	0	0	29	1	383	12	68	0	0	494	0	383	12	68	0	494	0	1264												
Cars Entering %	98.5	100.0	96.9	0.0	0.0	98.2	100.0	0.0	0.0	100.0	0.0	100.0	100.0	98.9	94.2	100.0	95.2	100.0	100.0	100.0	0.0	0.0	100.0	100.0	90.6	100.0	96.6	0.0	0.0	92.1	0.2	92.1	3.5	14.4	0.0	92.1	0.2	94.8													
Heavy Entering %	1.5	0.0	3.1	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	3.4	0.0	0.0	7.9	0.0	7.9	0.0	5.2	0.0	5.2														
Cars Exiting Leg	191	22	63	0	0	276	1	0	0	1	0	2	4	63	407	8	1	515	18	1	9	0	0	28	1	347	12	65	0	0	465	0	347	12	65	0	465	0	1194												
Heavy Exiting Leg	3	0	2	0	0	5	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	0	39	0	36	0	3	0	39	0	70												
Total Exiting Leg	194	22	65	0	0	281	1	0	0	1	0	2	4	64	432	8	1	541	18	1	9	0	0	29	1	383	12	68	0	0	494	0	383	12	68	0	494	0	1264												
Cars Exiting %	98.5	100.0	96.9	0.0	0.0	98.2	100.0	0.0	0.0	100.0	0.0	100.0	100.0	98.9	94.2	100.0	95.2	100.0	100.0	100.0	0.0	0.0	100.0	100.0	90.6	100.0	96.6	0.0	0.0	92.1	0.2	92.1	3.5	14.4	0.0	92.1	0.2	94.8													
Heavy Exiting %	1.5	0.0	3.1	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	3.4	0.0	0.0	7.9	0.0	7.9	0.0	5.2	0.0	5.2														
Total Exiting %	99.0	100.0	97.0	0.0	0.0	99.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	99.0	95.0	100.0	96.0	100.0	100.0	100.0	0.0	0.0	100.0	100.0	91.2	100.0	97.2	0.0	0.0	93.3	0.2	93.3	3.5	14.4	0.0	93.3	0.2	95.5													



PDI File #: 207450 6C  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng./B.Limolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



	Cars															
	Forest Street				Mirak Mill Park West Driveway				Massachusetts Avenue				Burton Street			
	from North				from Northeast				from East				from South			
	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Total
7:00 AM	44	4	18	0	66	0	1	0	0	1	0	8	79	0	0	87
7:15 AM	48	3	18	1	70	0	0	0	0	0	1	5	69	0	0	75
7:30 AM	52	11	13	0	76	0	0	0	0	0	3	28	94	1	1	127
7:45 AM	41	9	20	0	70	0	0	0	0	0	0	23	110	1	0	140
Total	185	27	69	1	272	0	1	0	0	1	4	66	352	4	1	423
8:00 AM	57	1	19	0	77	1	0	0	1	2	2	27	118	2	0	149
8:15 AM	41	1	11	0	53	0	0	0	0	0	1	13	85	0	0	99
8:30 AM	30	0	10	1	41	0	0	0	0	0	0	13	86	0	0	99
8:45 AM	27	1	9	1	38	0	0	0	2	2	1	13	168	0	0	182
Total	155	3	49	2	209	1	0	0	3	4	4	66	397	2	0	479
Grand Total	340	30	118	3	481	1	1	0	3	5	8	132	749	6	1	898
Approach %	70.0	6.2	23.3	0.6	0.0	20.0	20.0	0.0	60.0	0.0	0.9	14.7	83.4	0.9	0.1	66.7
Exit %	84.7	1.3	4.9	0.1	21.0	0.0	0.0	0.0	0.1	0.0	0.3	5.7	32.4	0.3	0.0	38.9
Turning Left Entail					27%				4%						3%	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Cars															
	Forest Street				Mirak Mill Park West Driveway				Massachusetts Avenue				Burton Street			
	from North				from Northeast				from East				from South			
	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Right	Thru	Left	U Turn	Total	Total
7:30 AM	52	11	13	0	76	0	0	0	0	0	3	28	94	1	1	127
7:45 AM	41	1	20	0	62	0	0	0	0	0	0	23	110	1	0	140
8:00 AM	52	1	19	0	72	1	0	0	1	2	2	27	118	2	0	149
8:15 AM	41	1	11	0	53	0	0	0	0	0	1	13	85	0	0	99
Total	196	24	72	0	292	1	0	0	2	3	6	91	407	4	1	515
% Approach Total	69.2	8.2	24.8	0.0	0.0	50.0	0.0	0.0	50.0	0.0	1.2	18.1	74.0	1.5	0.2	64.3
Exit %	83.8	0.900	0.758	0.000	0.886	0.250	0.000	0.000	0.250	0.000	0.500	0.830	0.862	0.400	0.250	0.864
Turning Left Entail	19%	22	63	0	24%	1	0	0	1	0	4	93	407	4	1	515
Total					46%				2%						3%	



PDI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nilsch Eng/B.2Imolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



### Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Forest Street					Mass Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue					
	from North					from Northeast					from East					from South					from West					
	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total	
7:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	13	0	13	0	0	0	0	0	0	9	0	0	0	9
7:15 AM	2	0	0	0	2	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	0	9	0	0	0	9
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	1	8	0	9	0	0	0	0	0	0	9	0	1	0	12
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	11	0	0	0	11
Total	5	0	0	0	5	0	0	0	0	0	0	2	31	0	33	0	0	0	0	0	0	28	0	1	0	29
B:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	5	0	0	0	5
B:15 AM	2	0	0	0	2	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	11	0	0	0	11
B:30 AM	1	0	0	0	1	0	0	0	0	0	0	1	7	0	8	0	0	0	0	0	0	5	0	1	0	6
B:45 AM	1	0	0	0	1	0	0	0	0	0	0	1	7	0	8	0	0	0	0	0	0	6	0	0	0	6
Total	4	0	0	0	4	0	0	0	0	0	0	2	25	0	27	0	0	0	0	0	0	27	0	1	0	28
Grand Total	9	0	0	0	9	0	0	0	0	0	0	4	56	0	60	0	0	0	0	0	0	65	0	1	0	66
Approximate %	64.3	0.0	0.0	0.0	64.3	0.0	0.0	0.0	0.0	0.0	0.0	6.7	93.3	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	94.2	0.0	3.8	0.0	98.0
Total %	5.3	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	2.8	33.9	0.0	41.7	0.0	0.0	0.0	0.0	0.0	0.0	45.3	0.0	2.8	0.0	48.1
Percentage Total	8.3					0.0					7.0					0.0					6.6					
Buses	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24	0	0	0	0	0	0	21	0	0	0	21
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	0.0	0.0	0.0	31.3
Single Unit Trucks	4	0	0	0	4	0	0	0	0	0	0	3	29	0	32	0	0	0	0	0	0	38	0	0	0	38
% Single Unit Trucks	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	51.8	0.0	53.3	0.0	0.0	0.0	100.0	0.0	100.0	58.5	0.0	0.0	0.0	59.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	0	6	0	1	0	7
% Articulated Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	5.4	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	25.0	0.0	10.1
Percentage Total	0.0					0.0					0.0					0.0					0.0					

### Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue									
	from North										from Northeast										from East										from South										from West									
	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total	Right	Thru	Left	at Time	Total																				
7:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9																			
7:15 AM	2	0	0	0	2	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9																			
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	1	8	0	9	0	0	0	0	0	0	0	0	0	0	0	9	0	1	0	12																			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	11	0	0	0	11																				
Total Volume	5	0	0	0	5	0	0	0	0	0	0	2	31	0	33	0	0	0	0	0	0	0	0	0	0	28	0	1	0	29																				
% Buses	21.4	0.0	0.0	0.0	21.4	0.0	0.0	0.0	0.0	0.0	0.0	4.3	48.9	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.3	0.0	3.8	0.0	48.1																				
% Single Unit Trucks	64.3	0.0	100.0	0.0	64.3	0.0	0.0	0.0	0.0	0.0	0.0	75.0	51.8	0.0	53.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	63.7	0.0	66.7	0.0	63.4																				
% Articulated Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	5.4	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	25.0	0.0	10.1																					
Percentage Total	8.3					0.0					7.0					0.0					6.6																													
Buses	0	0	0	0	0	0	0	0	0	0	0	0	15	0	15	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9																				
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.4	0.0	45.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.7	0.0	0.0	0.0	23.6																				
Single Unit Trucks	5	0	0	0	5	0	0	0	0	0	0	2	15	0	17	0	0	0	0	0	0	0	0	0	0	24	0	2	0	26																				
% Single Unit Trucks	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	48.4	0.0	51.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.7	0.0	66.7	0.0	63.4																				
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5	0	1	0	6																				
% Articulated Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	33.3	0.0	14.6																				
Buses	0	0	0	0	0	0	0	0	0	0	0	0	15	0	15	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9																				
% Single Unit Trucks	5	0	0	0	5	0	0	0	0	0	0	2	15	0	17	0	0	0	0	0	0	0	0	0	0	24	0	2	0	26																				
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5	0	1	0	6																				
Percentage Total	8.3					0.0					7.0					0.0					6.6																													
Buses	0	0	0	0	0	0	0	0	0	0	0	0	15	0	15	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9																				
% Single Unit Trucks	5	0	0	0	5	0	0	0	0	0	0	2	15	0	17	0	0	0	0	0	0	0	0	0	0	24	0	2	0	26																				
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5	0	1	0	6																				
Percentage Total	8.3					0.0					7.0					0.0					6.6																													



Class



Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

Page 4



PDI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



### Single-Unit Trucks

	Forest Street																Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Total	
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7:15 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
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Turn at Mass	5	0	0	0	0	0	0	0	0	0	0	0	0	2	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	
% Approaches Total	71.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.8	88.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	92.3	0.00	0.00	0.00		
Portals	0.625	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.150	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.647	0.000	0.250	0.000	0.593	0.694	
Excluding Leg	5	0	0	0	0	0	0	0	0	0	0	0	0	2	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	50
Excluding Leg															20																20	50
Total															41																45	100



PDI File #: 207450 8C  
 Location: N: Forest Street S: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



### Articulated Trucks

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	2	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	4	0	0	0	0	0	0	0	0	6	0	1	0	7
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.7	0.0	14.3	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	27.3	0.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.5	0.0	9.1	0.0	63.6	
Remaining %	3						0						6						4						3						11

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total			
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Total volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	7
% Approach Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.500	0.583
Phil	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.500	0.583	
Remaining Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
Turning Leg														5																1	2	
Total	1						0					5		6					0									7		7	14	



PDI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



**Bicycles (on Roadway and Crosswalks)**

	Forest Street																Mirak Mill Park West Driveway																Massachusetts Avenue																Burton Street																Massachusetts Avenue																Total																
	from North																from Northeast																from East																from South																from West																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																																																	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																															
Approach %	0.0																0.0																0.0																0.0																0.0																0.0																
Enter %	0.0																0.0																0.0																0.0																0.0																0.0																0.0
Enter Log Factor	0.0																0.0																0.0																0.0																0.0																0.0																0.0

**Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:**

Eastbound Analysis from 8:00 AM to 8:45 AM Begun at 8:00 AM																																									
8:00 AM	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total
	from North								from Northeast								from East								from South								from West								
	AP	WV	LT	RT	LT	RT	AP	WV	LT	RT	LT	RT	AP	WV	LT	RT	LT	RT	AP	WV	LT	RT	LT	RT	AP	WV	LT	RT	LT	RT	AP	WV	LT	RT	LT	RT					
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Feet per Sec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Feet per Sec Factor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				



PDI File #: 207450 BC  
 Location: N: Forest Street S; Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



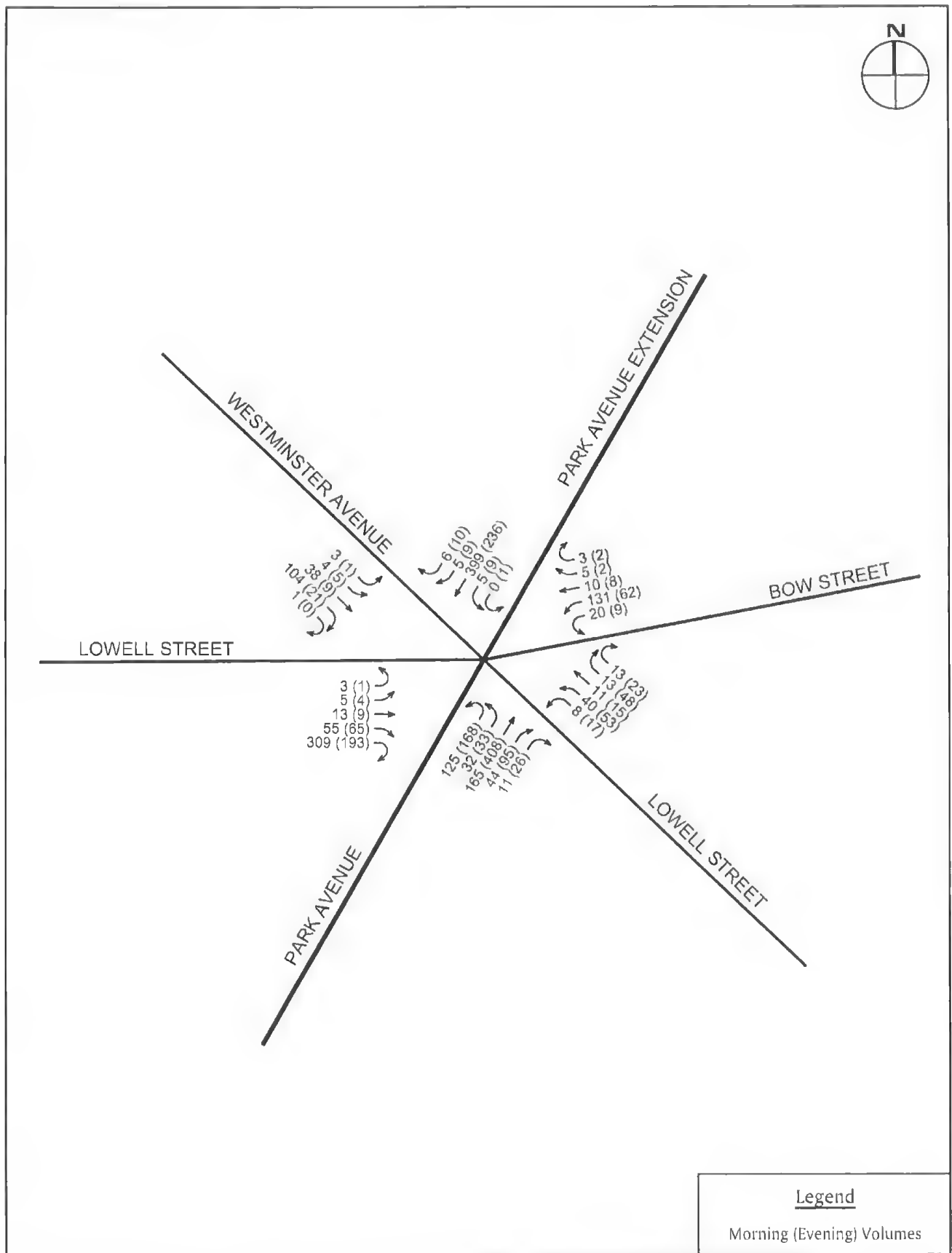
### Pedestrians

Class	Pedestrians																																										
	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total		
	from North								from Northeast								from East								from South								from West										
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	1	1	6	
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	6		
7:30 AM	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	20	20	38	
7:45 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	16	16	23
Total	0	0	0	0	0	0	1	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	5	0	0	0	0	1	47	85	73	
8:00 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	15	
Grand Total	0	0	0	0	0	0	2	10	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	48	50	0	0	0	0	2	48	50	88	
Average 10%	0	0	0	0	0	0	0.167	0.633	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.48	60	60	0	0	0	0	0.4	96		
Total %	0	0	0	0	0	0	2.27	13.4	13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.55	60.1	61	0	0	0	0	2.28	54.5	54.8		
Surveying Total	12							16							0							16							50							88							

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	from North										from Northeast										from East										from South										from West																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	Age	Sex	Wt	Hgt	Eye	Hair	Build	Height	Weight	Build	Age	Sex	Wt	Hgt	Eye	Hair	Build	Height	Weight	Build	Age	Sex	Wt	Hgt	Eye	Hair	Build	Height	Weight	Build	Age	Sex	Wt	Hgt	Eye	Hair	Build	Height	Weight	Build																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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2016 Existing Condition Weekday Peak Hour Traffic Volumes  
19R Park Avenue  
Arlington, Massachusetts

Figure 2  
Not to Scale



## Motor Vehicle Crash Data

1

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## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

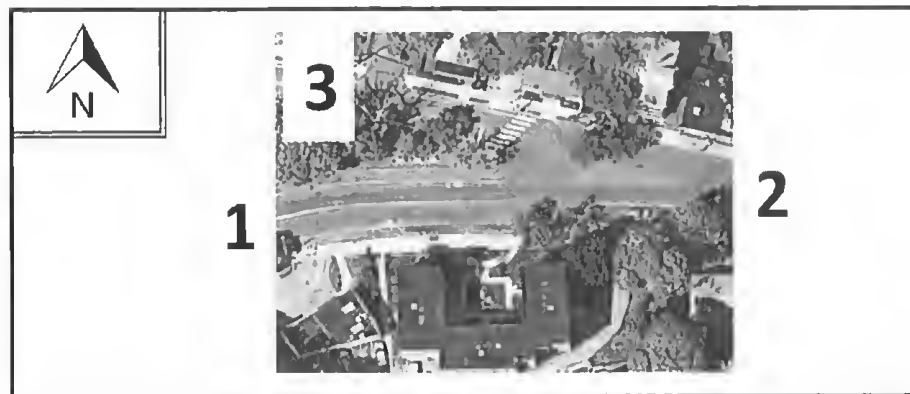
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

### ~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Lowell Street

INTERSECTION  
DIAGRAM



### PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	SB			
PEAK HOURLY VOLUMES (AM/PM) :	387	369	118			874

"K" FACTOR :

**0.080**

INTERSECTION ADT ( V ) = TOTAL DAILY  
APPROACH VOLUME :

**10,925**

TOTAL # OF CRASHES :

**7**

# OF  
YEARS :

**3**

AVERAGE # OF  
CRASHES PER YEAR ( A ) :

**2.33**

CRASH RATE CALCULATION :

**0.59**

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : \_\_\_\_\_

Project Title & Date: \_\_\_\_\_



## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN Arlington COUNT DATE : February 2020

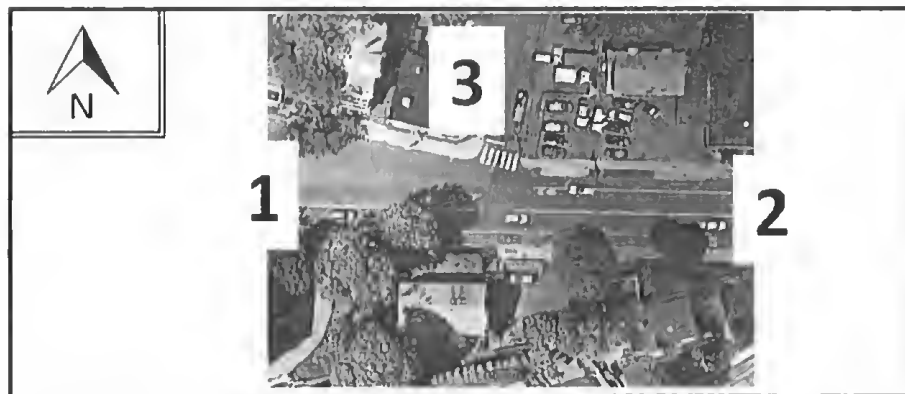
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

### ~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Clark Street

INTERSECTION  
DIAGRAM



### PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	SB			
PEAK HOURLY VOLUMES (AM/PM) :	495	374	10			879

"K" FACTOR :

0.082

INTERSECTION ADT ( V ) = TOTAL DAILY  
APPROACH VOLUME :

10,720

TOTAL # OF CRASHES :

1

# OF  
YEARS :

3

AVERAGE # OF  
CRASHES PER YEAR ( A ) :

0.33

CRASH RATE CALCULATION :

0.09

RATE =  $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : \_\_\_\_\_

Project Title & Date: \_\_\_\_\_



## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

### ~ INTERSECTION DATA ~

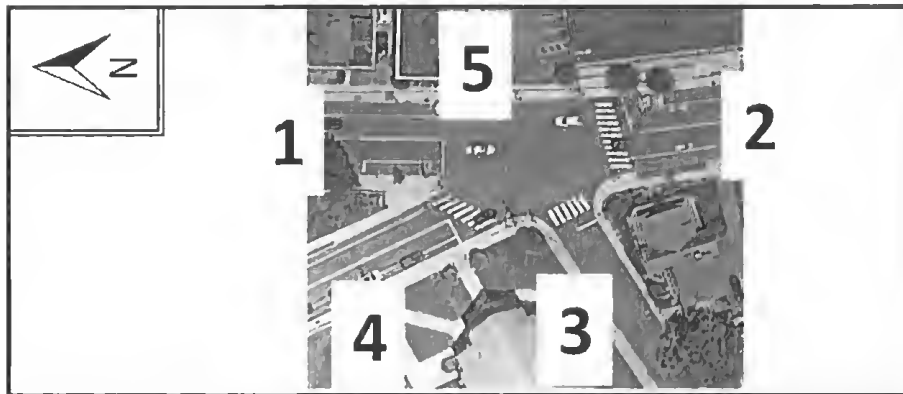
MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Appleton Street

Appleton Place

Driveway

INTERSECTION  
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	NEB	SB	
PEAK HOURLY VOLUMES (AM/PM) :	376	625	64	159	0	1,224

"K" FACTOR :  INTERSECTION ADT ( V ) = TOTAL DAILY  
APPROACH VOLUME :

TOTAL # OF CRASHES :  # OF  
YEARS :  AVERAGE # OF  
CRASHES PER YEAR ( A ) :

CRASH RATE CALCULATION :

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : \_\_\_\_\_

Project Title & Date: \_\_\_\_\_



## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

### ~ INTERSECTION DATA ~

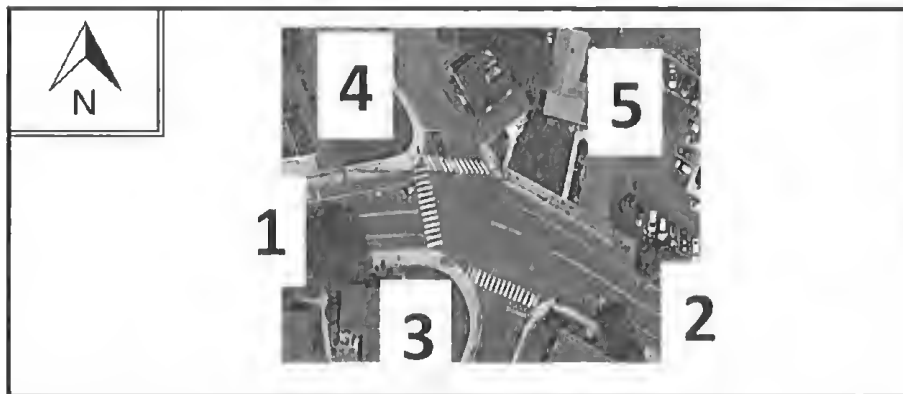
MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Forest Street

Burton Street

Driveway

INTERSECTION  
DIAGRAM



### PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SEB	SB	
PEAK HOURLY VOLUMES (AM/PM) :	492	541	28	281	1	1,343

"K" FACTOR :

**0.080**

INTERSECTION ADT ( V ) = TOTAL DAILY  
APPROACH VOLUME :

**16,788**

TOTAL # OF CRASHES :

**10**

# OF  
YEARS .

**3**

AVERAGE # OF  
CRASHES PER YEAR ( A ) :

**3.33**

CRASH RATE CALCULATION :

**0.54**

RATE =  $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : \_\_\_\_\_










Project Title & Date: \_\_\_\_\_



## **Traffic Operations Analysis**









28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	308	395	80	124	5
Future Volume (Veh/h)	5	308	395	80	124	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	7	411	470	95	135	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	595				1002	578
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	595				1002	578
IC, single (s)	4.1				*5.0	*5.0
IC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				67	99
cM capacity (veh/h)	963				412	640
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	418	565	140			
Volume Left	7	0	135			
Volume Right	0	95	5			
cSH	963	1700	417			
Volume to Capacity	0.01	0.33	0.34			
Queue Length 95th (ft)	1	0	36			
Control Delay (s)	0.2	0.0	17.9			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	17.9			
Approach LOS			C			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			43.9%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (veh/h)	10	422	405	10	5	70
Future Volume (Veh/h)	10	422	405	10	5	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	13	563	482	12	5	76
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	524				1137	548
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524				1137	548
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				99	88
cM capacity (veh/h)	1023				357	659
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	576	494	81			
Volume Left	13	0	5			
Volume Right	0	12	76			
cSH	1023	1700	626			
Volume to Capacity	0.01	0.29	0.13			
Queue Length 95th (ft)	1	0	11			
Control Delay (s)	0.4	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		48.0%		ICU Level of Service	A	
Analysis Period (min)		15				

\* User Entered Value


















28424.01 :: 1207-1211 Massachusetts Avenue LCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	341	46	284	359	0	17	0	163	1	0	0
Future Volume (Veh/h)	0	341	46	284	359	0	17	0	163	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	455	61	338	427	0	20	0	192	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	642			634			1816	1922	818	2210	1952	751
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	642			634			1816	1922	818	2210	1952	751
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
IF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			60			85	100	66	99	100	100
cM capacity (veh/h)	757			842			131	29	565	86	27	287
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	516	765	212	1								
Volume Left	0	338	20	1								
Volume Right	61	0	192	0								
cSH	757	842	430	86								
Volume to Capacity	0.00	0.40	0.49	0.01								
Queue Length 95th (ft)	0	49	66	1								
Control Delay (s)	0.0	9.0	21.2	47.5								
Lane LOS		A	C	E								
Approach Delay (s)	0.0	9.0	21.2	47.5								
Approach LOS			C	E								
Intersection Summary												
Average Delay			7.6									
Intersection Capacity Utilization			81.9%		ICU Level of Service				D			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	415	1	10	445	98	0	9	19	65	22	194
Future Volume (Veh/h)	91	415	1	10	445	98	0	9	19	65	22	194
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	105	477	1	11	511	113	0	20	43	73	25	218
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	681			534			1620	1446	542	1396	1390	682
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	681			534			1620	1446	542	1396	1390	682
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	88			99			100	91	93	63	89	60
cM capacity (veh/h)	858			988			34	215	659	198	228	541
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	583	635	63	316								
Volume Left	105	11	0	73								
Volume Right	1	113	43	218								
cSH	858	988	398	358								
Volume to Capacity	0.12	0.01	0.16	0.88								
Queue Length 95th (ft)	10	1	14	214								
Control Delay (s)	3.1	0.3	15.7	57.1								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.1	0.3	15.7	57.1								
Approach LOS			C	F								
Intersection Summary												
Average Delay			13.2									
Intersection Capacity Utilization			93.4%		ICU Level of Service				F			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	477	552	6	1	1
Future Volume (Veh/h)	22	477	552	6	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	548	634	7	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	649				1252	654
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	649				1252	654
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	941				326	619
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	573	641	8			
Volume Left	25	0	4			
Volume Right	0	7	4			
cSH	941	1700	427			
Volume to Capacity	0.03	0.38	0.02			
Queue Length 95th (ft)	2	0	1			
Control Delay (s)	0.7	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	13.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			55.3%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue TCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	35	29	26	304	151	8
Future Volume (Veh/h)	35	29	26	304	151	8
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	92	76	31	362	178	9
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	824	382	296			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	824	382	296			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	75	88	97			
cM capacity (veh/h)	372	628	1155			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	168	393	187			
Volume Left	92	31	0			
Volume Right	76	0	9			
cSH	456	1155	1700			
Volume to Capacity	0.37	0.03	0.11			
Queue Length 95th (ft)	42	2	0			
Control Delay (s)	17.4	0.9	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.4	0.9	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			58.1%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	382	218	151	113	5
Future Volume (Veh/h)	5	382	218	151	113	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	7	509	260	180	123	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	470				933	410
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	470				933	410
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				72	99
cM capacity (veh/h)	1071				443	756
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	516	440	128			
Volume Left	7	0	123			
Volume Right	0	180	5			
cSH	1071	1700	450			
Volume to Capacity	0.01	0.26	0.28			
Queue Length 95th (ft)	0	0	29			
Control Delay (s)	0.2	0.0	16.1			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	16.1			
Approach LOS			C			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			41.7%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	485	364	10	5	5
Future Volume (Veh/h)	10	485	364	10	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	13	647	433	12	5	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	475				1172	499
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	475				1172	499
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				99	99
cM capacity (veh/h)	1066				344	692
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	660	445	10			
Volume Left	13	0	5			
Volume Right	0	12	5			
cSH	1066	1700	460			
Volume to Capacity	0.01	0.26	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.3	0.0	13.0			
Lane LOS	A		B			
Approach Delay (s)	0.3	0.0	13.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			49.9%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	423	18	114	318	2	18	1	331	1	1	3
Future Volume (Veh/h)	3	423	18	114	318	2	18	1	331	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	455	19	130	361	2	20	1	368	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	390			481			1126	1128	498	1515	1136	410
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390			481			1126	1128	498	1515	1136	410
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			88			94	100	48	98	99	99
cM capacity (veh/h)	1149			1080			328	328	707	103	325	763
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	477	493	389	9								
Volume Left	3	130	20	2								
Volume Right	19	2	368	5								
cSH	1149	1080	666	280								
Volume to Capacity	0.00	0.12	0.58	0.03								
Queue Length 95th (ft)	0	10	95	2								
Control Delay (s)	0.1	3.3	17.7	18.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.3	17.7	18.3								
Approach LOS			C	C								
Intersection Summary												
Average Delay			6.4									
Intersection Capacity Utilization			80.4%		ICU Level of Service				D			
Analysis Period (min)			15									

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	562	2	3	375	92	1	3	8	38	4	65
Future Volume (Veh/h)	201	562	2	3	375	92	1	3	8	38	4	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	216	604	2	3	426	105	2	5	13	47	5	80
Pedestrians		21			16			21			19	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	550			627			1646	1614	642	1572	1562	518
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	550			627			1646	1614	642	1572	1562	518
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	78			100			99	97	98	74	97	88
cM capacity (veh/h)	996			945			150	174	613	182	184	690
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	822	534	20	132								
Volume Left	216	3	2	47								
Volume Right	2	105	13	80								
cSH	996	945	316	328								
Volume to Capacity	0.22	0.00	0.06	0.40								
Queue Length 95th (ft)	21	0	5	47								
Control Delay (s)	4.9	0.1	17.1	23.1								
Lane LOS	A	A	C	C								
Approach Delay (s)	4.9	0.1	17.1	23.1								
Approach LOS			C	C								
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			90.6%		ICU Level of Service				E			
Analysis Period (min)			15									

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour










19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	602	453	2	6	17
Future Volume (Veh/h)	6	602	453	2	6	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	6	647	515	2	9	27
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	517				1194	535
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	517				1194	535
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				97	96
cM capacity (veh/h)	1059				351	695
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	653	517	36			
Volume Left	6	0	9			
Volume Right	0	2	27			
cSH	1059	1700	558			
Volume to Capacity	0.01	0.30	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.2	0.0	11.9			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	11.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			51.2%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	23	10	123	327	5
Future Volume (Veh/h)	3	23	10	123	327	5
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	35	12	146	363	6
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576	404	389			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576	404	389			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	96	99			
cM capacity (veh/h)	648	779	1160			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	40	158	369			
Volume Left	5	12	0			
Volume Right	35	0	6			
cSH	760	1160	1700			
Volume to Capacity	0.05	0.01	0.22			
Queue Length 95th (ft)	4	1	0			
Control Delay (s)	10.0	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.0	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			46.8%	ICU Level of Service		A
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	337	437	88	137	6
Future Volume (Veh/h)	6	337	437	88	137	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	449	520	105	149	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	655				1098	632
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	655				1098	632
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				60	99
cM capacity (veh/h)	915				373	605
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	457	625	156			
Volume Left	8	0	149			
Volume Right	0	105	7			
cSH	915	1700	380			
Volume to Capacity	0.01	0.37	0.41			
Queue Length 95th (ft)	1	0	49			
Control Delay (s)	0.3	0.0	20.9			
Lane LOS	A		C			
Approach Delay (s)	0.3	0.0	20.9			
Approach LOS			C			
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			46.9%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	463	448	11	6	77
Future Volume (Veh/h)	11	463	448	11	6	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	617	533	13	7	84
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576				1246	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576				1246	600
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				98	87
cM capacity (veh/h)	979				317	626
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	632	546	91			
Volume Left	15	0	7			
Volume Right	0	13	84			
cSH	979	1700	582			
Volume to Capacity	0.02	0.32	0.16			
Queue Length 95th (ft)	1	0	14			
Control Delay (s)	0.4	0.0	12.3			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	12.3			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			51.1%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	373	51	315	402	0	19	0	177	1	0	0
Future Volume (Veh/h)	0	373	51	315	402	0	19	0	177	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	497	68	375	479	0	22	0	208	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	694			683			1987	2093	864	2398	2127	803
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	694			683			1987	2093	864	2398	2127	803
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	*3.5	4.0	3.3
p0 queue free %	100			54			79	100	62	99	100	100
cM capacity (veh/h)	724			808			106	20	554	68	19	268
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	565	854	230	1								
Volume Left	0	375	22	1								
Volume Right	68	0	208	0								
cSH	724	808	394	68								
Volume to Capacity	0.00	0.46	0.58	0.01								
Queue Length 95th (ft)	0	62	89	1								
Control Delay (s)	0.0	10.6	26.2	58.4								
Lane LOS		B	D	F								
Approach Delay (s)	0.0	10.6	26.2	58.4								
Approach LOS			D	F								
Intersection Summary												
Average Delay			9.2									
Intersection Capacity Utilization			88.7%	ICU Level of Service					E			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	456	1	10	491	108	0	10	21	72	24	223
Future Volume (Veh/h)	95	456	1	10	491	108	0	10	21	72	24	223
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	109	524	1	11	564	124	0	23	48	81	27	251
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	745			581			1768	1566	590	1516	1504	740
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	745			581			1768	1566	590	1516	1504	740
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	87			99			100	88	92	51	86	51
cM capacity (veh/h)	812			950			22	187	629	166	200	510
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	634	699	71	359								
Volume Left	109	11	0	81								
Volume Right	1	124	48	251								
cSH	812	950	356	322								
Volume to Capacity	0.13	0.01	0.20	1.12								
Queue Length 95th (ft)	12	1	18	354								
Control Delay (s)	3.4	0.3	17.6	121.4								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.4	0.3	17.6	121.4								
Approach LOS			C	F								
Intersection Summary												
Average Delay			26.8									
Intersection Capacity Utilization			101.1%		ICU Level of Service				G			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	527	608	8	1	1
Future Volume (Veh/h)	22	527	608	8	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	606	699	9	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	716				1376	720
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	716				1376	720
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	888				286	579
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	631	708	8			
Volume Left	25	0	4			
Volume Right	0	9	4			
cSH	888	1700	383			
Volume to Capacity	0.03	0.42	0.02			
Queue Length 95th (ft)	2	0	2			
Control Delay (s)	0.7	0.0	14.6			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	14.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			57.9%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	39	32	29	337	164	9
Future Volume (Veh/h)	39	32	29	337	164	9
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	103	84	35	401	193	11
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	888	398	313			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888	398	313			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	70	86	97			
cM capacity (veh/h)	348	619	1139			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	187	436	204			
Volume Left	103	35	0			
Volume Right	84	0	11			
cSH	434	1139	1700			
Volume to Capacity	0.43	0.03	0.12			
Queue Length 95th (ft)	53	2	0			
Control Delay (s)	19.5	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.5	1.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			60.3%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	430	241	167	125	6
Future Volume (Veh/h)	6	430	241	167	125	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	573	287	199	136	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	516				1036	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	516				1036	446
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				66	99
cM capacity (veh/h)	1030				398	729
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	581	486	143			
Volume Left	8	0	136			
Volume Right	0	199	7			
cSH	1030	1700	407			
Volume to Capacity	0.01	0.29	0.35			
Queue Length 95th (ft)	1	0	39			
Control Delay (s)	0.2	0.0	18.6			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	18.6			
Approach LOS			C			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			45.2%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	543	402	11	6	6
Future Volume (Veh/h)	11	543	402	11	6	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	724	479	13	7	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	522				1300	546
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	522				1300	546
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				98	99
cM capacity (veh/h)	1025				301	661
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	739	492	14			
Volume Left	15	0	7			
Volume Right	0	13	7			
cSH	1025	1700	413			
Volume to Capacity	0.01	0.29	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.4	0.0	14.0			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	14.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			53.7%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value


















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	475	20	126	352	2	20	1	368	1	1	3
Future Volume (Veh/h)	3	475	20	126	352	2	20	1	368	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	511	22	143	400	2	22	1	409	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	429			540			1249	1250	556	1678	1260	449
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	429			540			1249	1250	556	1678	1260	449
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			86			92	100	39	97	99	99
cM capacity (veh/h)	1112			1027			284	283	667	69	280	734
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	536	545	432	9								
Volume Left	3	143	22	2								
Volume Right	22	2	409	5								
cSH	1112	1027	623	209								
Volume to Capacity	0.00	0.14	0.69	0.04								
Queue Length 95th (ft)	0	12	138	3								
Control Delay (s)	0.1	3.6	22.8	23.0								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.6	22.8	23.0								
Approach LOS			C	C								
Intersection Summary												
Average Delay			7.9									
Intersection Capacity Utilization			88.2%		ICU Level of Service				E			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	631	2	3	412	101	1	3	9	42	4	74
Future Volume (Veh/h)	221	631	2	3	412	101	1	3	9	42	4	74
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	238	678	2	3	468	115	2	5	15	52	5	91
Pedestrians		21			16			21			19	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	602			701			1822	1784	716	1739	1728	566
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	602			701			1822	1784	716	1739	1728	566
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	75			100			98	96	97	64	97	86
cM capacity (veh/h)	953			887			117	139	569	146	148	658
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	918	586	22	148								
Volume Left	238	3	2	52								
Volume Right	2	115	15	91								
cSH	953	887	277	280								
Volume to Capacity	0.25	0.00	0.08	0.53								
Queue Length 95th (ft)	25	0	6	72								
Control Delay (s)	5.7	0.1	19.1	31.4								
Lane LOS	A	A	C	D								
Approach Delay (s)	5.7	0.1	19.1	31.4								
Approach LOS			C	D								
Intersection Summary												
Average Delay			6.2									
Intersection Capacity Utilization			98.6%		ICU Level of Service				F			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	664	497	17	7	19
Future Volume (Veh/h)	18	664	497	17	7	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	19	714	565	19	11	30
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	584				1346	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	584				1346	594
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				96	95
cM capacity (veh/h)	1001				296	655
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	733	584	41			
Volume Left	19	0	11			
Volume Right	0	19	30			
cSH	1001	1700	494			
Volume to Capacity	0.02	0.34	0.08			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.5	0.0	12.9			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	12.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			64.1%	ICU Level of Service		C
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	25	11	136	364	6
Future Volume (Veh/h)	3	25	11	136	364	6
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	38	13	162	404	7
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	636	446	431			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	636	446	431			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	95	99			
cM capacity (veh/h)	609	747	1119			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	43	175	411			
Volume Left	5	13	0			
Volume Right	38	0	7			
cSH	728	1119	1700			
Volume to Capacity	0.06	0.01	0.24			
Queue Length 95th (ft)	5	1	0			
Control Delay (s)	10.3	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.3	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			49.5%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	347	446	88	137	6
Future Volume (Veh/h)	6	347	446	88	137	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	463	531	105	149	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	666				1122	644
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				1122	644
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				59	99
cM capacity (veh/h)	906				363	599
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	471	636	156			
Volume Left	8	0	149			
Volume Right	0	105	7			
cSH	906	1700	370			
Volume to Capacity	0.01	0.37	0.42			
Queue Length 95th (ft)	1	0	51			
Control Delay (s)	0.3	0.0	21.6			
Lane LOS	A		C			
Approach Delay (s)	0.3	0.0	21.6			
Approach LOS			C			
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			47.3%	ICU Level of Service		A
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	473	457	25	16	77
Future Volume (Veh/h)	11	473	457	25	16	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	631	544	30	17	84
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	604				1280	619
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	604				1280	619
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				94	86
cM capacity (veh/h)	956				306	614
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	646	574	101			
Volume Left	15	0	17			
Volume Right	0	30	84			
cSH	956	1700	525			
Volume to Capacity	0.02	0.34	0.19			
Queue Length 95th (ft)	1	0	18			
Control Delay (s)	0.4	0.0	13.5			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	13.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			51.7%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value









28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 7: Clark Street & Rear Driveway

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	0	21	15	0	78
Future Volume (Veh/h)	15	0	21	15	0	78
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	23	16	0	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	116	31			39	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	116	31			39	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	98	100			100	
cM capacity (veh/h)	880	1043			1571	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	39	85			
Volume Left	16	0	0			
Volume Right	0	16	0			
cSH	880	1700	1571			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.2	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.2	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			14.1%	ICU Level of Service	A	
Analysis Period (min)			15			











28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 9: Massachusetts Avenue & West Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	↑
Traffic Volume (veh/h)	0	489	462	0	10	20
Future Volume (Veh/h)	0	489	462	0	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	0	652	550	0	11	22
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	580				1262	610
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	580				1262	610
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				97	96
cM capacity (veh/h)	975				317	619
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	652	550	33			
Volume Left	0	0	11			
Volume Right	0	0	22			
cSH	1700	1700	470			
Volume to Capacity	0.38	0.32	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	13.2			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	13.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			42.2%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 11: Massachusetts Avenue & East Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	479	462	10	0	0
Future Volume (Veh/h)	20	479	462	10	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	27	639	550	12	0	0
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		0.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	592				1309	616
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	592				1309	616
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	994				168	480
Direction, Lane #	EB 1	WB 1				
Volume Total	666	562				
Volume Left	27	0				
Volume Right	0	12				
cSH	994	1700				
Volume to Capacity	0.03	0.33				
Queue Length 95th (ft)	2	0				
Control Delay (s)	0.7	0.0				
Level LOS	A					
Approach Delay (s)	0.7	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		57.8%	ICU Level of Service	B		
Analysis Period (min)		15				



















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	387	53	315	419	0	21	0	177	1	0	0
Future Volume (Veh/h)	0	387	53	315	419	0	21	0	177	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	516	71	375	499	0	25	0	208	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	714			705			2028	2134	884	2438	2169	823
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	714			705			2028	2134	884	2438	2169	823
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			53			75	100	62	98	100	100
cM capacity (veh/h)	712			793			101	19	548	66	17	261
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	587	874	233	1								
Volume Left	0	375	25	1								
Volume Right	71	0	208	0								
cSH	712	793	372	66								
Volume to Capacity	0.00	0.47	0.63	0.02								
Queue Length 95th (ft)	0	64	102	1								
Control Delay (s)	0.0	11.0	29.5	60.6								
Lane LOS		B	D	F								
Approach Delay (s)	0.0	11.0	29.5	60.6								
Approach LOS			D	F								
<b>Intersection Summary</b>												
Average Delay			9.8									
Intersection Capacity Utilization			90.5%		ICU Level of Service				E			
Analysis Period (min)			15									

\* User Entered Value













28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	470	1	10	508	108	0	10	21	72	24	223
Future Volume (Veh/h)	95	470	1	10	508	108	0	10	21	72	24	223
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	109	540	1	11	584	124	0	23	48	81	27	251
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	765			597			1804	1602	606	1552	1540	760
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	765			597			1804	1602	606	1552	1540	760
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	86			99			100	87	92	49	86	50
cM capacity (veh/h)	798			937			20	180	619	159	192	499
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	650	719	71	359								
Volume Left	109	11	0	81								
Volume Right	1	124	48	251								
cSH	798	937	345	311								
Volume to Capacity	0.14	0.01	0.21	1.15								
Queue Length 95th (ft)	12	1	19	374								
Control Delay (s)	3.4	0.3	18.1	136.0								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.4	0.3	18.1	136.0								
Approach LOS			C	F								
Intersection Summary												
Average Delay			29.2									
Intersection Capacity Utilization			102.7%		ICU Level of Service				G			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	541	625	8	1	1
Future Volume (Veh/h)	22	541	625	8	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	622	718	9	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	735				1410	738
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	735				1410	738
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	874				275	568
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	647	727	8			
Volume Left	25	0	4			
Volume Right	0	9	4			
cSH	874	1700	371			
Volume to Capacity	0.03	0.43	0.02			
Queue Length 95th (ft)	2	0	2			
Control Delay (s)	0.8	0.0	14.9			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	14.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			58.6%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	39	32	29	339	166	9
Future Volume (Veh/h)	39	32	29	339	166	9
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	103	84	35	404	195	11
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	892	400	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	892	400	315			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	70	86	97			
cM capacity (veh/h)	347	618	1137			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	187	439	206			
Volume Left	103	35	0			
Volume Right	84	0	11			
cSH	432	1137	1700			
Volume to Capacity	0.43	0.03	0.12			
Queue Length 95th (ft)	54	2	0			
Control Delay (s)	19.6	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.6	1.0	0.0			
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			4.9			
Intersection Capacity Utilization			60.4%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	441	250	167	125	6
Future Volume (Veh/h)	6	441	250	167	125	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	588	298	199	136	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	527				1062	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527				1062	458
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				65	99
cM capacity (veh/h)	1020				388	721
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	596	497	143			
Volume Left	8	0	136			
Volume Right	0	199	7			
cSH	1020	1700	397			
Volume to Capacity	0.01	0.29	0.36			
Queue Length 95th (ft)	1	0	40			
Control Delay (s)	0.2	0.0	19.1			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	19.1			
Approach LOS			C			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			45.8%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	554	411	26	21	6
Future Volume (Veh/h)	11	554	411	26	21	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	739	489	31	23	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	550				1334	564
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	550				1334	564
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				92	99
cM capacity (veh/h)	1000				290	648
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	754	520	30			
Volume Left	15	0	23			
Volume Right	0	31	7			
cSH	1000	1700	333			
Volume to Capacity	0.01	0.31	0.09			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.4	0.0	16.9			
Lane LOS	A		C			
Approach Delay (s)	0.4	0.0	16.9			
Approach LOS			C			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			54.3%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value









28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 7: Clark Street & Rear Driveway

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	0	22	16	0	12
Future Volume (Veh/h)	15	0	22	15	0	12
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	24	16	0	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	45	32			40	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45	32			40	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	965	1042			1570	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	40	13			
Volume Left	16	0	0			
Volume Right	0	16	0			
cSH	965	1700	1570			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			











28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 9: Massachusetts Avenue & West Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	↑
Traffic Volume (veh/h)	0	575	417	0	10	20
Future Volume (Veh/h)	0	575	417	0	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	0	767	496	0	11	22
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	526				1323	556
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	526				1323	556
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				96	97
cM capacity (veh/h)	1021				298	654
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	767	496	33			
Volume Left	0	0	11			
Volume Right	0	0	22			
cSH	1700	1700	467			
Volume to Capacity	0.45	0.29	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	13.3			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	13.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			46.7%	ICU Level of Service		A
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 11: Massachusetts Avenue & East Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	565	417	10	0	0
Future Volume (Veh/h)	20	565	417	10	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	27	753	496	12	0	0
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		0.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	538				1369	562
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	538				1369	562
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	1040				154	515
Direction, Lane #	EB 1	WB 1				
Volume Total	780	508				
Volume Left	27	0				
Volume Right	0	12				
cSH	1040	1700				
Volume to Capacity	0.03	0.30				
Queue Length 95th (ft)	2	0				
Control Delay (s)	0.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.7	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		62.2%	ICU Level of Service		B	
Analysis Period (min)		15				



28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	490	22	128	370	2	20	1	369	1	1	3
Future Volume (Veh/h)	3	490	22	128	370	2	20	1	369	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	527	24	145	420	2	22	1	410	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	449			558			1290	1291	573	1720	1302	469
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	449			558			1290	1291	573	1720	1302	469
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			86			92	100	38	97	99	99
cM capacity (veh/h)	1093			1011			271	270	656	63	266	719
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	554	567	433	9								
Volume Left	3	145	22	2								
Volume Right	24	2	410	5								
cSH	1093	1011	610	196								
Volume to Capacity	0.00	0.14	0.71	0.05								
Queue Length 95th (ft)	0	12	145	4								
Control Delay (s)	0.1	3.6	24.0	24.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.6	24.0	24.3								
Approach LOS			C	C								

















Intersection Summary

Average Delay	8.1			
Intersection Capacity Utilization	90.3%	ICU Level of Service	E	
Analysis Period (min)	15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	646	2	3	431	101	1	3	9	42	4	74
Future Volume (Veh/h)	221	646	2	3	431	101	1	3	9	42	4	74
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	238	695	2	3	490	115	2	5	15	52	5	91
Pedestrians		21			16			21			19	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	624			718			1861	1823	733	1778	1766	588
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	624			718			1861	1823	733	1778	1766	588
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	75			100			98	96	97	63	96	86
cM capacity (veh/h)	935			875			112	133	559	139	141	646
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	935	608	22	148								
Volume Left	238	3	2	52								
Volume Right	2	115	15	91								
cSH	935	875	267	269								
Volume to Capacity	0.25	0.00	0.08	0.55								
Queue Length 95th (ft)	25	0	7	76								
Control Delay (s)	5.9	0.1	19.7	33.7								
Lane LOS	A	A	C	D								
Approach Delay (s)	5.9	0.1	19.7	33.7								
Approach LOS			C	D								
Intersection Summary												
Average Delay			6.4									
Intersection Capacity Utilization			100.4%		ICU Level of Service					G		
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	679	515	17	7	19
Future Volume (Veh/h)	18	679	515	17	7	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	19	730	585	19	11	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	604				1362	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	604				1362	594
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				96	95
cM capacity (veh/h)	984				297	666
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	749	604	41			
Volume Left	19	0	11			
Volume Right	0	19	30			
cSH	984	1700	499			
Volume to Capacity	0.02	0.36	0.08			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.5	0.0	12.9			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	12.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			60.2%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	25	11	139	365	6
Future Volume (Veh/h)	3	25	11	139	365	6
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	38	13	165	406	7
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	640	448	433			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	640	448	433			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	95	99			
cM capacity (veh/h)	606	746	1118			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	43	178	413			
Volume Left	5	13	0			
Volume Right	38	0	7			
cSH	726	1118	1700			
Volume to Capacity	0.06	0.01	0.24			
Queue Length 95th (ft)	5	1	0			
Control Delay (s)	10.3	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.3	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			49.7%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



# SPECIAL PERMIT - SITE PLAN REVIEW

1211 Massachusetts Avenue  
Arlington, MA 02476

June 23, 2020



LINCOLN ARCHITECTS LLC  
1 Mount Vernon Street, Suite 203  
Winchester, MA 01890  
781.721.7721

## LOCUS PLAN



## DRAWING LIST

ARCHITECTURAL	
COVER SHEET	
L1.1	EXISTING CONDITION DIAGRAM
L1.2	LANDSCAPING PLAN
1 OF 1 PROPOSED SITE PLAN	
1 OF 1 PROPOSED TURNING RADIUS PLAN	
ES.1 SITE PHOTOMETRIC PLAN	
A0.1	RENDERING IMAGE / VIEW FROM MASSACHUSETTS AVENUE
A0.2	RENDERING IMAGE / BIRDS EYE VIEW FROM MASSACHUSETTS AVENUE
A0.3	RENDERED IMAGE / SET IN PHOTO-VIEW FROM MASSACHUSETTS AVENUE I
A0.4	RENDERED IMAGE / SET IN PHOTO-VIEW FROM MASSACHUSETTS AVENUE II
A0.5	RENDERED IMAGE / SET IN PHOTO-VIEW FROM CLARK STREET
A1.1	LOWER LEVEL/MAIN LEVEL FLOOR PLAN
A1.2	SECOND & THIRD FLOOR PLAN/FOURTH FLOOR PLAN
A3.1	ROOF PLAM / BUILDING SECTION
A4.1	BUILDING ELEVATIONS
A4.2	BUILDING ELEVATIONS
A5.1	EXISTING BUILDING - SHADOW STYDY/SUMMER SOLSTICE
A5.2	EXISTING BUILDING - SHADOW STYDY/WINTER SOLSTICE
A5.3	EXISTING BUILDING - SHADOW STYDY/AUTUMN EQUINOX
A5.4	EXISTING BUILDING - SHADOW STYDY/SPRING EQUINOX
A6.1	PROPOSED BUILDING - SHADOW STYDY/SUMMER SOLSTICE
A6.2	PROPOSED BUILDING - SHADOW STYDY/WINTER SOLSTICE
A6.3	PROPOSED BUILDING - SHADOW STYDY/AUTUMN EQUINOX
A6.4	PROPOSED BUILDING - SHADOW STYDY/SPRING EQUINOX





LINCOLN  
Architects LLC

One Mount Vernon Street, Suite 203  
Winchester, Massachusetts 01890

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Consultants

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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

EXISTING CONDITRIONS

Project Number  
2017.032

Drawing Scale  
1" = 20'

Drawn By  
GMe

Checked By  
GMe

Date Issued  
06/23/20

L1.1



Planting Schedule  
1211 Massachusetts Ave

75	Buxus Green Velvet	Green Velvet Boxwood	15-18"	Front
75	Carex Blue Zinger	Blue Zinger Grass	n/a	Front
4	Syringa Reticulata Ivory Silk	Tree Liliac	2"	Rear
10	Thuja standishi x Pucata	Green Grant Arborvitae	6-8'	Rear
5	Ilex x Meserveae	Blue Princess	8-10"	Rear
4	Hydrangea Quercifolia	Oakleaf Hydrangea	4'	side

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Revisions

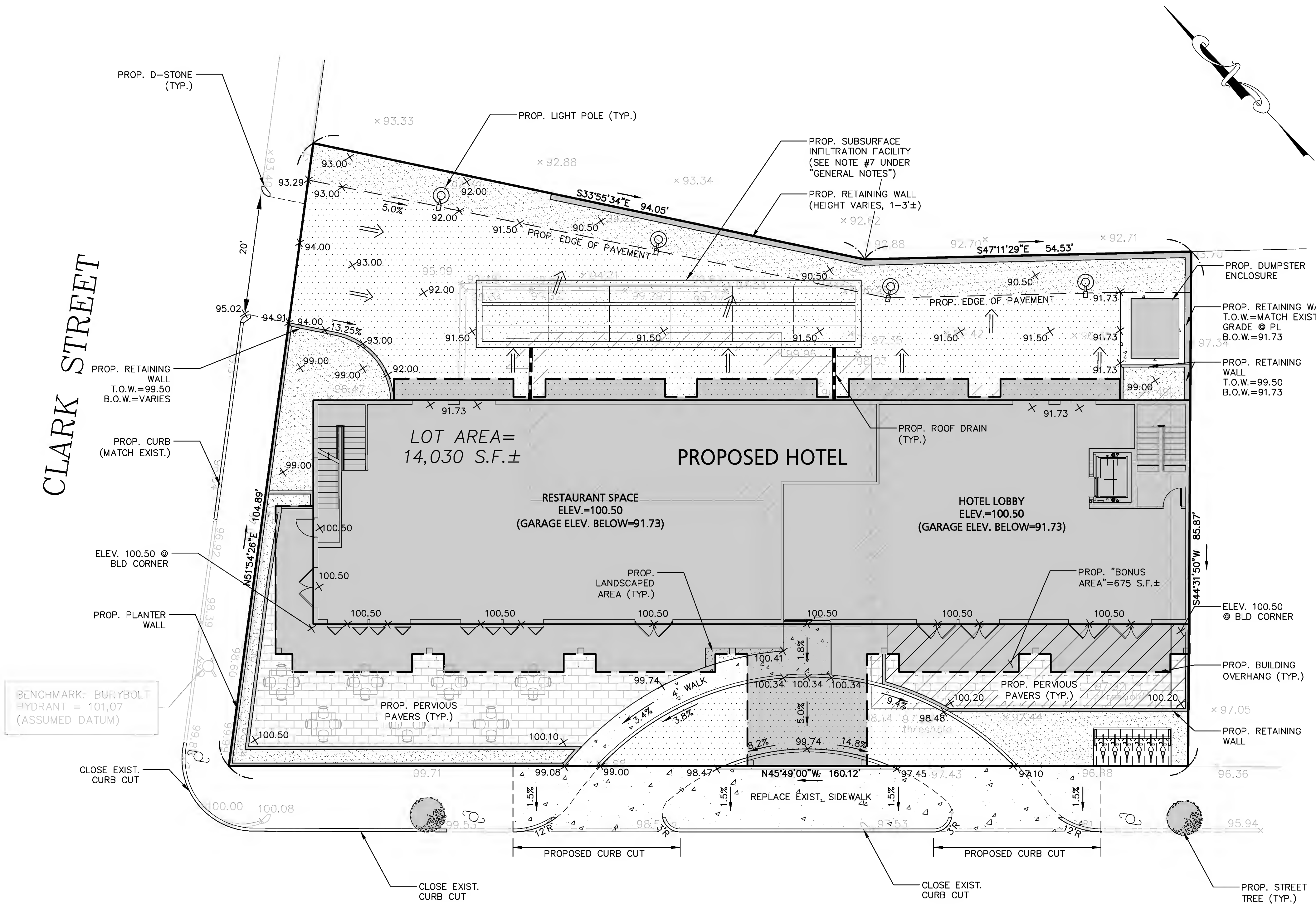
PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

LANDSCAPE PLAN

Project Number 2017.032
Drawing Scale 3/32"=1'-0"
Drawn By GMc
Checked By GMc
Date Issued 06/23/20



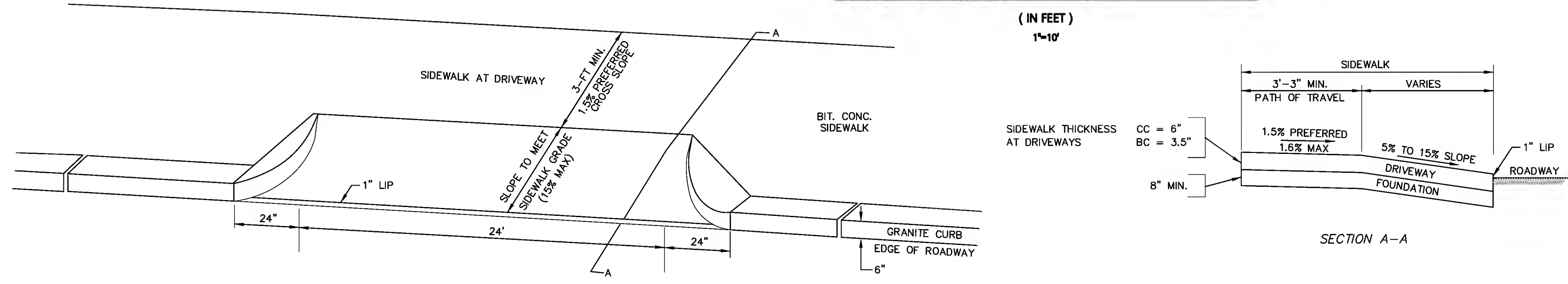
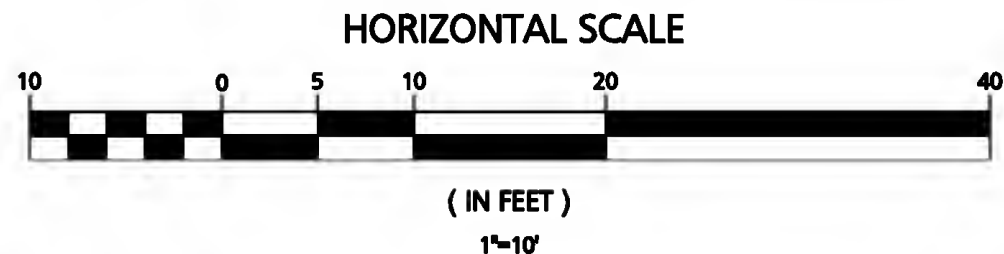




LEGEND - GRADING PLAN	
PROPERTY LINE	---
PROPOSED CURB	---
PROPOSED BUILDING	---
PROPOSED BUILDING OVERHANG	---
PROPOSED SPOT SHOT	100.50 X
PROPOSED FLOW ARROW	==>
PROPOSED BIT. CONC.	---
PROPOSED LANDSCAPING	---
PROPOSED CEM. CONC.	---
PROPOSED PERV. PAVER	---
PROPOSED WALL	---

- GENERAL NOTES:**
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DISSECT" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
  - THE CONTRACTOR SHALL EXCAVATE TEST PITS PRIOR TO COMMENCING WORK TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITY SERVICES.
  - ALL PROPOSED WORK SHALL BE PERFORMED IN FULL COMPLIANCE WITH THE TOWN OF ARLINGTON, AND IS SUBJECT TO QUALITY CONTROL TESTING AT THE DISCRETION OF THE ENGINEERING DEPT. AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ARLINGTON D.P.W. PRIOR TO THE COMMENCEMENT OF ANY UTILITY WORK.
  - ANY CHANGE IN THE FIELD CONDITIONS SHOULD BE REPORTED TO THE ENGINEER TO ENSURE THAT ANY MODIFICATIONS TO THE ORIGINAL DESIGN CONFORM TO STANDARD ENGINEERING AND CONSTRUCTION PRACTICES AND ADEQUATE TO SERVE THE PROJECT'S NEEDS AND COMPLY WITH APPLICABLE STANDARDS AND REGULATIONS.
  - REFER TO ARCHITECTURAL PLANS FOR PROPOSED PARKING LAYOUT.
  - SIZE, LOCATION, AND DEPTH OF PROPOSED SUBSURFACE INFILTRATION FACILITY IS SHOWN FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO DIG A TEST PIT TO DETERMINE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION. THE AREA DESIGNATED FOR SUBSURFACE INFILTRATION SHOWN ON THIS PLAN ASSUMES THE VOLUME OF A 10-YEAR STORM EVENT FOR THE PROPOSED ROOF AREA ONLY. THIS AREA IS BASED ON THE VOLUME PROVIDED BY CULTEC R-150XLHD CHAMBERS AND ASSUMES SEPARATION TO THE ESTIMATE SEASONAL HIGH WATER TABLE IS SUFFICIENT. ALL CONDITIONS WILL NEED TO BE VERIFIED PRIOR TO FINAL DESIGN OF SYSTEM.

## MASSACHUSETTS AVENUE



**DRIVEWAY DETAIL**  
NOT TO SCALE

PREPARED BY:

PROJECT:

PROPOSED FOR:

**Engineering Alliance, Inc.**  
Civil Engineering & Land Planning Consultants  
1950 Lafayette Road  
Portsmouth, NH 03801  
Tel: (603) 610-7100  
Fax: (603) 610-7101

**Proposed Site Plan**  
1211 Massachusetts Avenue  
(Parcel ID: 58-11-1 & 57-4-14)  
Arlington, Massachusetts

Professional Engineer for  
Engineering Alliance, Inc.

DWG. NO.

DRAWING TITLE:

10f1

**Grading Plan**

DATE: June 18, 2020

DWG FILE NAME: 20-59805.dwg

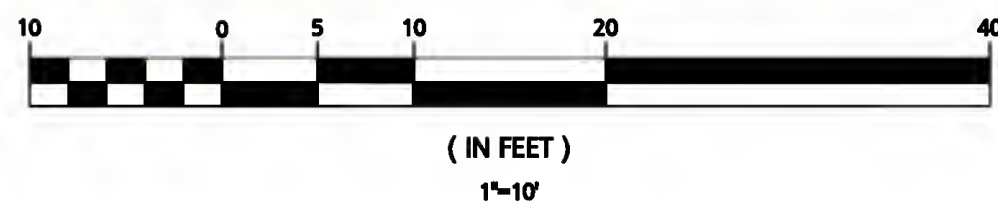
CHECKED BY: Richard A. Salvo, P.E.



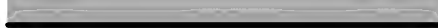



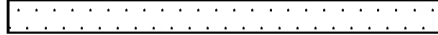
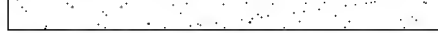



PROJECT # 20-59805

SCALE: AS NOTED

DESIGN BY: Eric Bradanes, P.E.







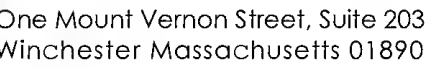
LEGEND - GRADING PLAN	
PROPERTY LINE	
PROPOSED CURB	
PROPOSED BUILDING	
PROPOSED BUILDING OVERHANG	
PROPOSED SPOT SHOT	100.50 
PROPOSED FLOW ARROW	
PROPOSED BIT. CONC.	
PROPOSED LANDSCAPING	
PROPOSED CEM. CONC.	
PROPOSED PERV. PAVER	
PROPOSED WALL	

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING REGULATING AUTHORITY, AND "GISE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
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6. REFER TO ARCHITECTURAL PLANS FOR PROPOSED PARKING LAYOUT.
7. SIZE, LOCATION, AND DEPTH OF PROPOSED SUBSURFACE INFILTRATION FACILITY IS SHOWN FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO DIG A TEST PIT TO DETERMINE SUBSURFACE CONDITIONS AND REPORT TO THE CONTRACTOR TO PROCEED WITH THE SUBSURFACE INFILTRATION SHOWN ON THIS PLAN ASSUMES THE VOLUME OF A 10-YEAR STORM EVENT FOR THE PROPOSED ROOF AREA ONLY. THIS AREA IS BASED ON THE VOLUME PROVIDED BY CULTURED R-150XLDH CHAMBERS AND ASSUMES SEPARATION TO THE ESTIMATE SEASONAL HIGH WATER TABLE. SUFFICIENT MATERIAL, ALL CONDITIONS WILL NEED TO BE VERIFIED PRIOR TO FINAL DESIGN OF SYSTEM.



DWG. NO. <b>1 of 1</b>	DRAWING TITLE: <b>AutoTURN: Trash Removal</b>		PROJECT: <b>Proposed Site Plan</b> <b>1211 Massachusetts Avenue</b> <b>(Parcel ID: 58-11-1 &amp; 57-4-14)</b> <b>Arlington, Massachusetts</b>	PREPARED BY:  <b>Engineering Alliance, Inc.</b> Civil Engineering & Land Planning Consultants 1950 Lafayette Road Portsmouth, NH 03801 Salgis, NH 03066 Tel: (781) 231-0059 Fax: (781) 417-0020	DATE	DESCRIPTION OF REVISION
	PROJECT NO.: 20-59805 SCALE: AS NOTED DWG FILE NAME: 20-59805.dwg DESIGN BY: Eric Bradanese, P.E. CHECKED BY: Richard A. Salvo, P.E.					





## Consultants



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## Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

Scale:  $\frac{3}{32}'' = 1'-0''$

TYPE	MANUFACTURER	CATALOGUE #	LAMPING			MOUNTING	REMARKS
			TYPE	WATTAGE	QUANTITY		
AA	MCGRAW EDISON	GLEON-AF-01-LED-E1-SL4-HSS	LED	59W		POLE	MOUNTED ON 10'-0" POLE W/ 2'-0" CONCRETE BASE
BB	MCGRAW EDISON	GLEON-AF-01-LED-E1-SL4-HSS	LED	59W		POLE	MOUNTED ON 10'-0" POLE W/ 2'-0" CONCRETE BASE
CC	HALO	HC420D010-HM412835-41MDC	LED	20		RECESSED	RECESSED CANOPY DOWNLIGHT

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMc

Checked By  
GMc

Date Issued  
06/23/20

# ES.1





CURRENT SUBMISSION



PREVIOUS SUBMISSION

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Revisions


PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING  
STREET VIEW

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMc

Checked By  
GMc

Date Issued  
06/23/20





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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

## RENDERING BIRDS EYE VIEW

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drown By  
GMC

Checked By  
GMc

Date Issued  
06/23/20

## A0.2





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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING  
STREET VIEW #1

Project Number  
2017.032

Drawing Scale  
N.T.S.

Drawn By  
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Checked By  
GMc

Date Issued  
06/23/20

A0.3





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**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**RENDERING**  
**STREET VIEW #2**

Project Number  
2017.032

Drawing Scale  
N.T.S

Drawn By  
GMc

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GMc

Date Issued  
06/23/20

**A0.4**





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Revisions

**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**RENDERING**  
**STREET VIEW #3**  
**CLARK ST**

Project Number  
2017.032

Drawing Scale  
N.T.S

Drawn By  
GMc

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GMc

Date Issued  
06/23/20

**A0.5**



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**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**LOWER LEVEL  
FIRST FLOOR  
FLOOR PLANS**

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMc

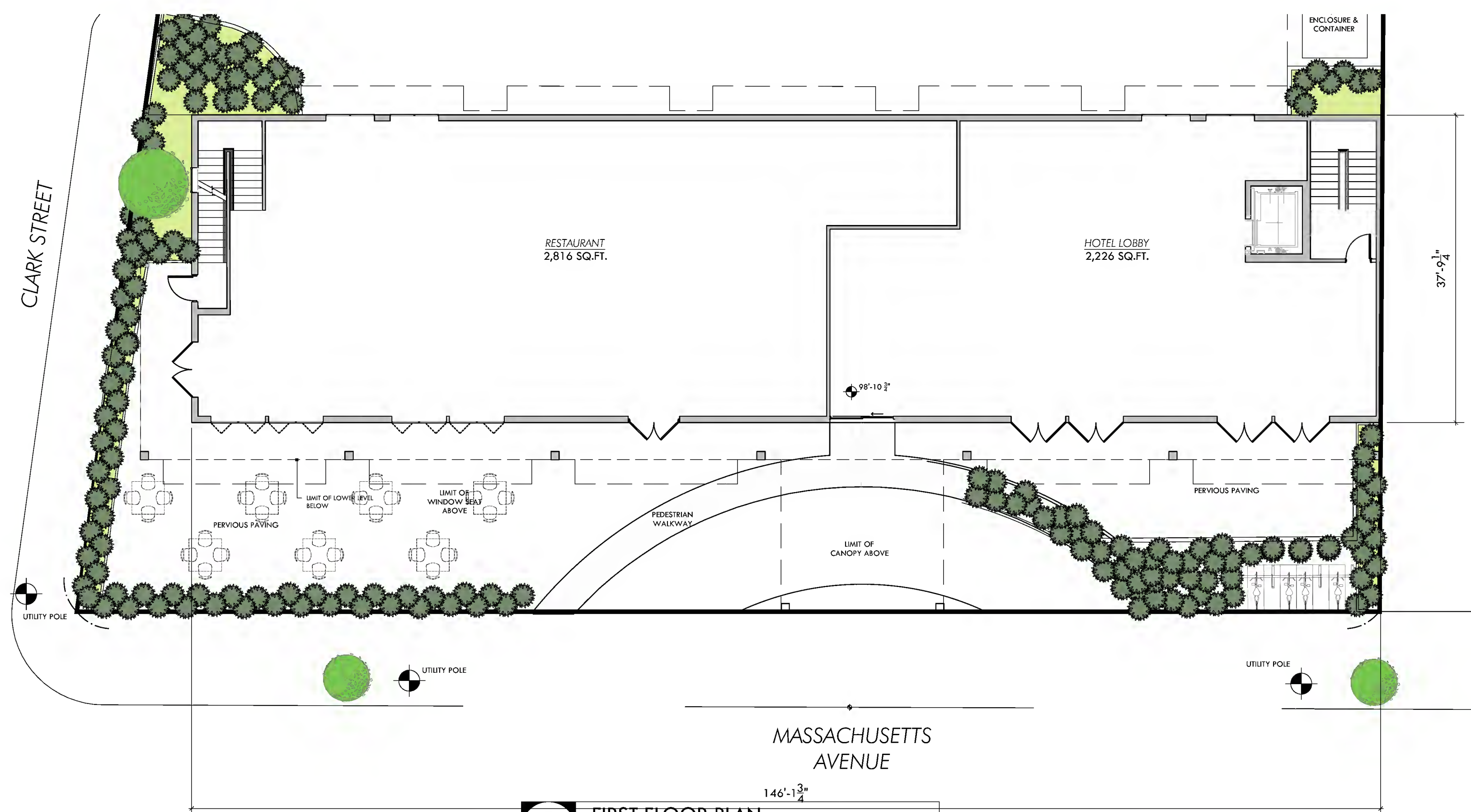
Checked By  
GMc

Date Issued  
06/23/20

**A1.1**



**1 LOWER LEVEL FLOOR PLAN**  
SCALE: 3/32"=1'-0"



**2 FIRST FLOOR PLAN**  
SCALE: 3/32"=1'-0"



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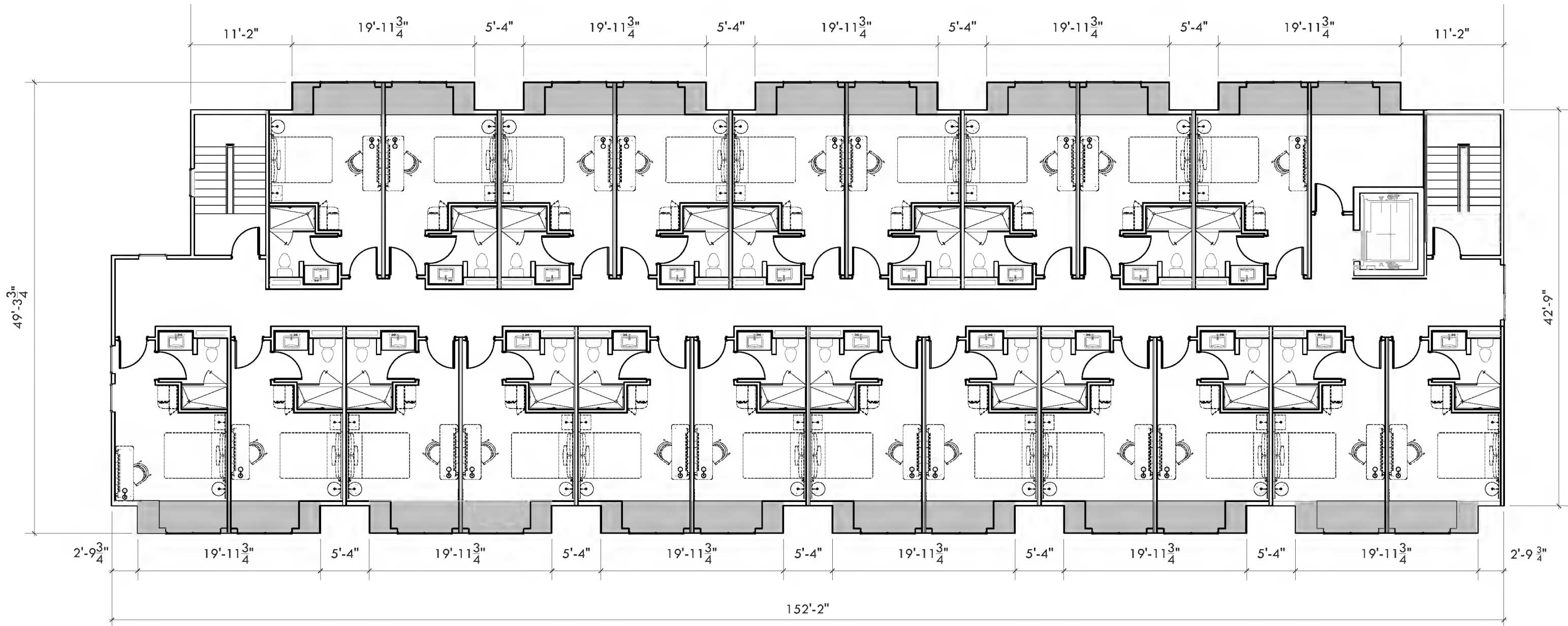
Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

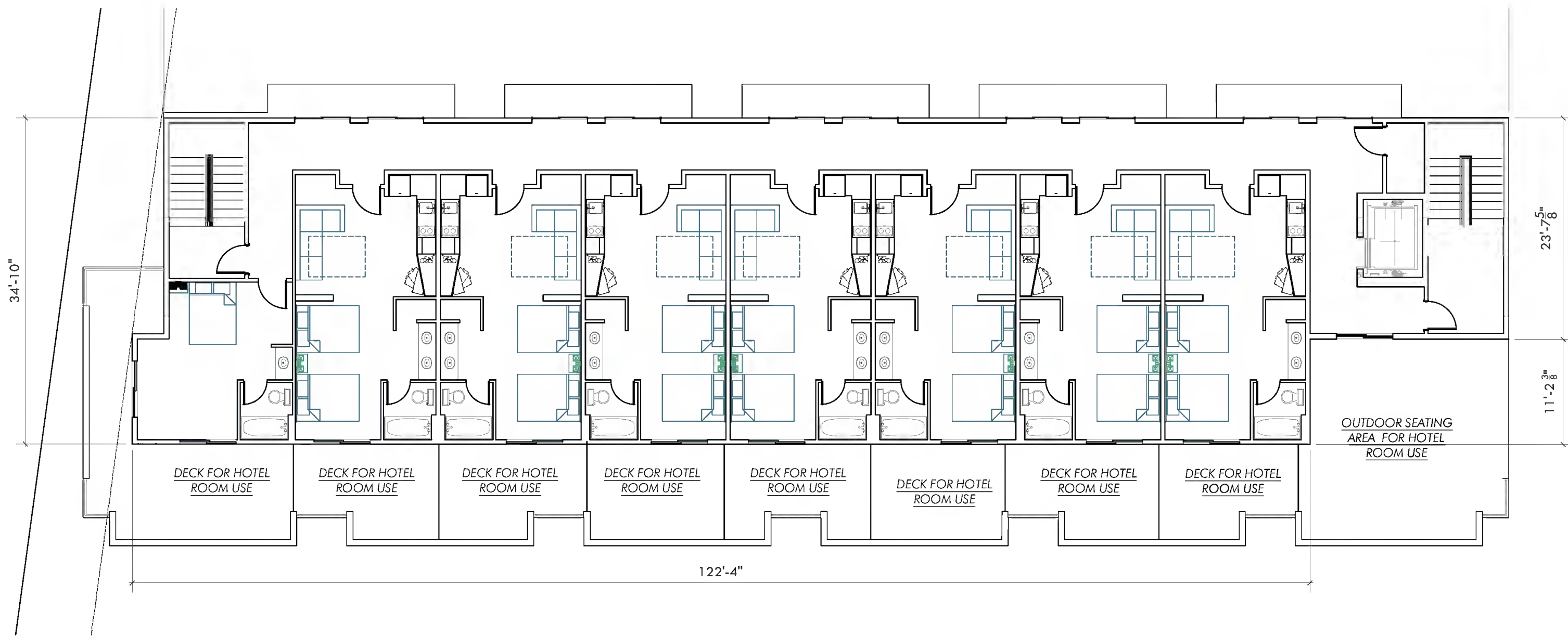
SECOND & THIRD FLOOR PLAN  
FOURTH FLOOR PLAN

Project Number  
2017.032  
Drawing Scale  
3/32"=1'-0"  
Drawn By  
GMc  
Checked By  
GMc  
Date Issued  
06/23/20

A1.2



1 SECOND & THIRD FLOOR PLAN  
A1.2 SCALE: 3/32"=1'-0"



2 FOURTH FLOOR PLAN  
A1.2 SCALE: 3/32"=1'-0"



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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

ROOF PLAN  
BUILDING SECTION

Project Number  
2017.032

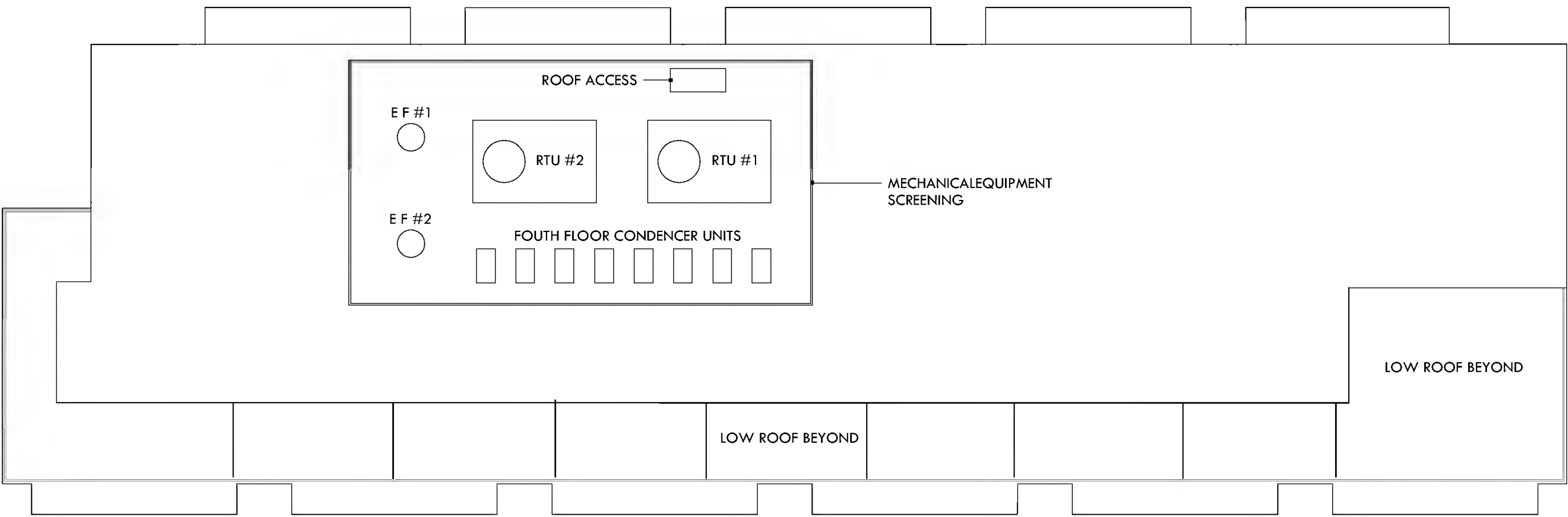
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Drawn By  
GMc

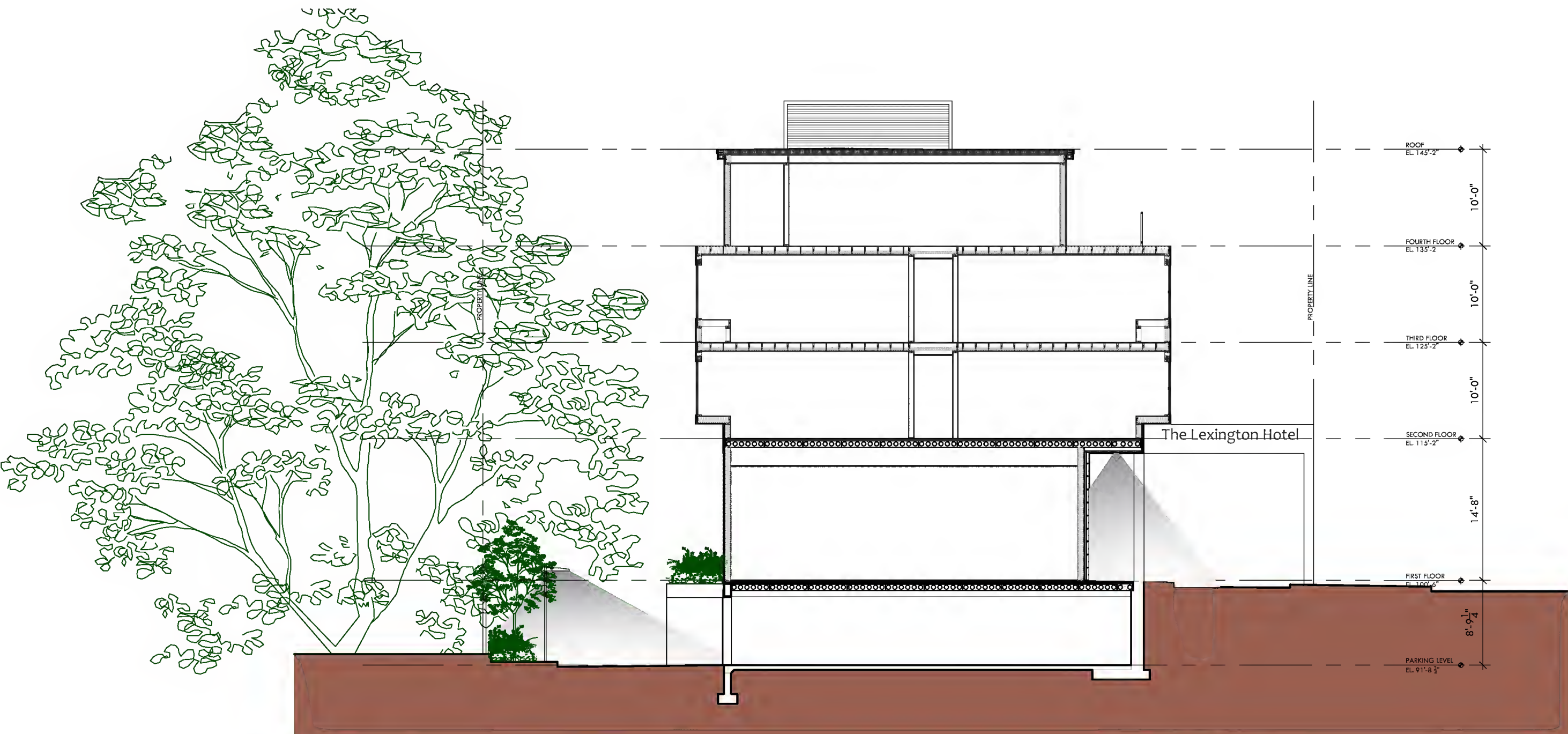
Checked By  
GMc

Date Issued  
06/23/20

A3.1



1 ROOF PLAN  
A3.1 SCALE: 3/32"=1'-0"



2 BUILDING SECTION  
A3.1 SCALE: 3/32"=1'-0"



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**PROPOSED HOTEL COMPLEX**  
**1211 Massachusetts Avenue**  
**Arlington, MA**

**BUILDING ELEVATIONS**

Project Number  
2017.032

Drawing Scale  
1/8"=1'-0"

Drawn By  
GMe

Checked By  
GMe

Date Issued  
06/23/20

**A4.1**



**1 BUILDING ELEVATIONS-FRONT**  
**A4.1 SCALE: 1/8"=1'-0"**



**2 BUILDING ELEVATIONS- REAR**  
**A4.1 SCALE: 1/8"=1'-0"**





1	BUILDING ELEVATIONS-SIDE
A4.2	SCALE: 1/8"=1'-0"

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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

BUILDING ELEVATIONS

Project Number  
2017.032

Drawing Scale  
1/8"=1'-0"

Drawn By  
GMc

Checked By  
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Date Issued  
06/23/20

A4.2





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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
SUMMER SOLSTICE

Project Number  
2017.032  
Drawing Scale  
N.T.S.  
Drawn By  
GMe  
Checked By  
GMe  
Date Issued  
12/12/19





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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
WINTER SOLSTICE

Project Number  
2017.032  
Drawing Scale  
N.T.S.  
Drawn By  
GMe  
Checked By  
GMe  
Date Issued  
12/12/19





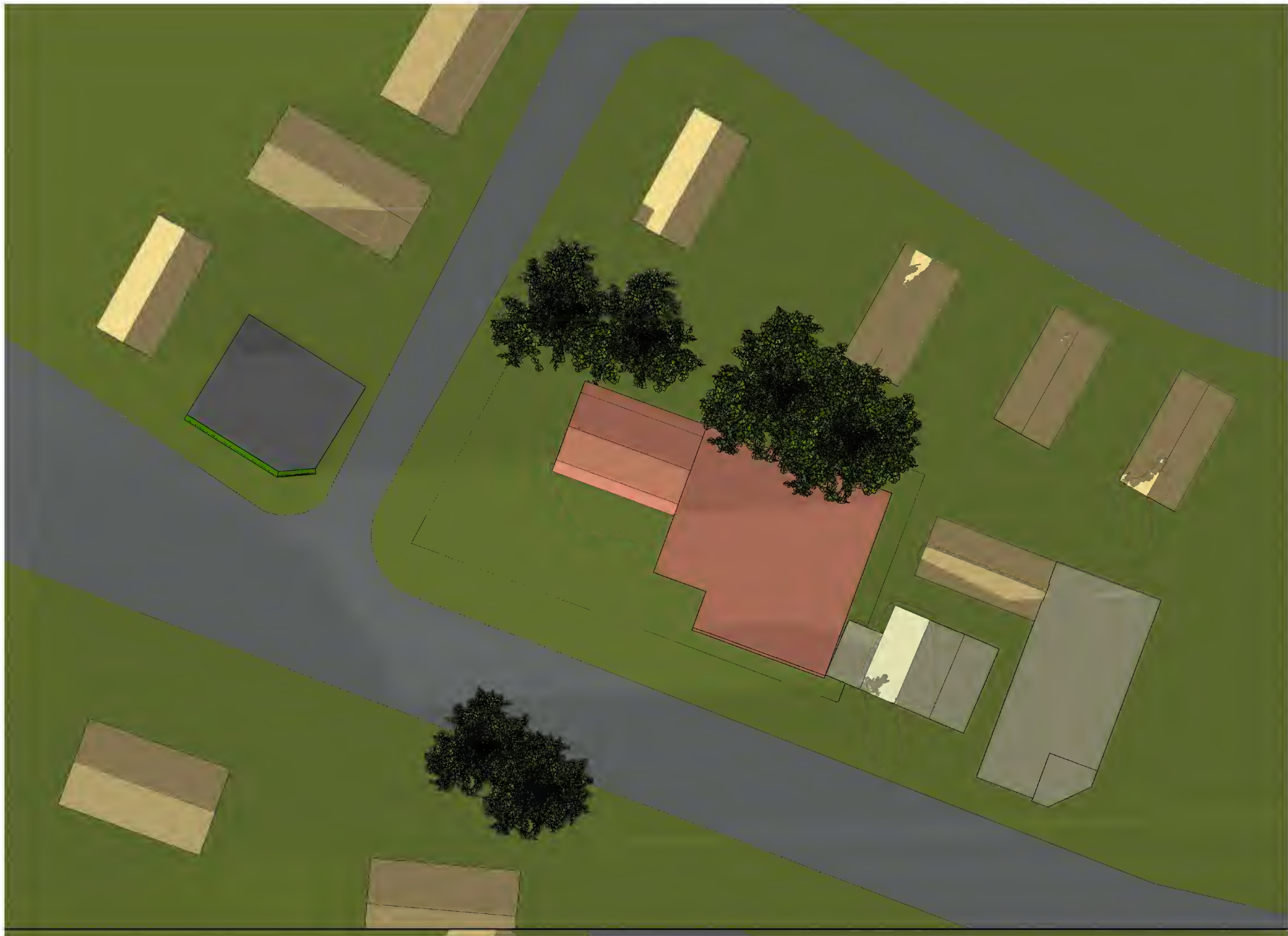
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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
AUTUMN EQUINOX

Project Number  
2017.032  
Drawing Scale  
N.T.S.  
Drawn By  
GMe  
Checked By  
GMe  
Date Issued  
12/12/19

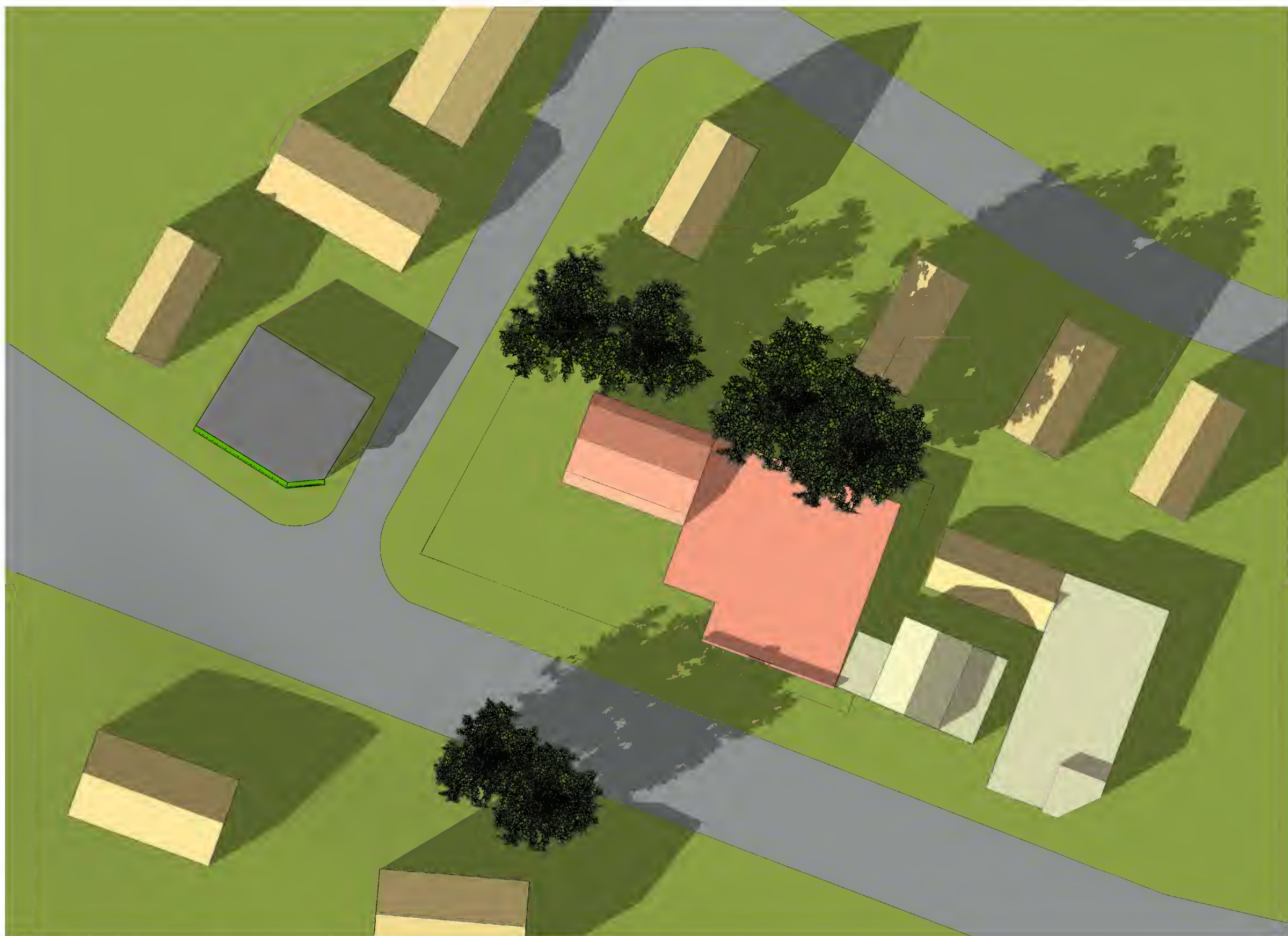




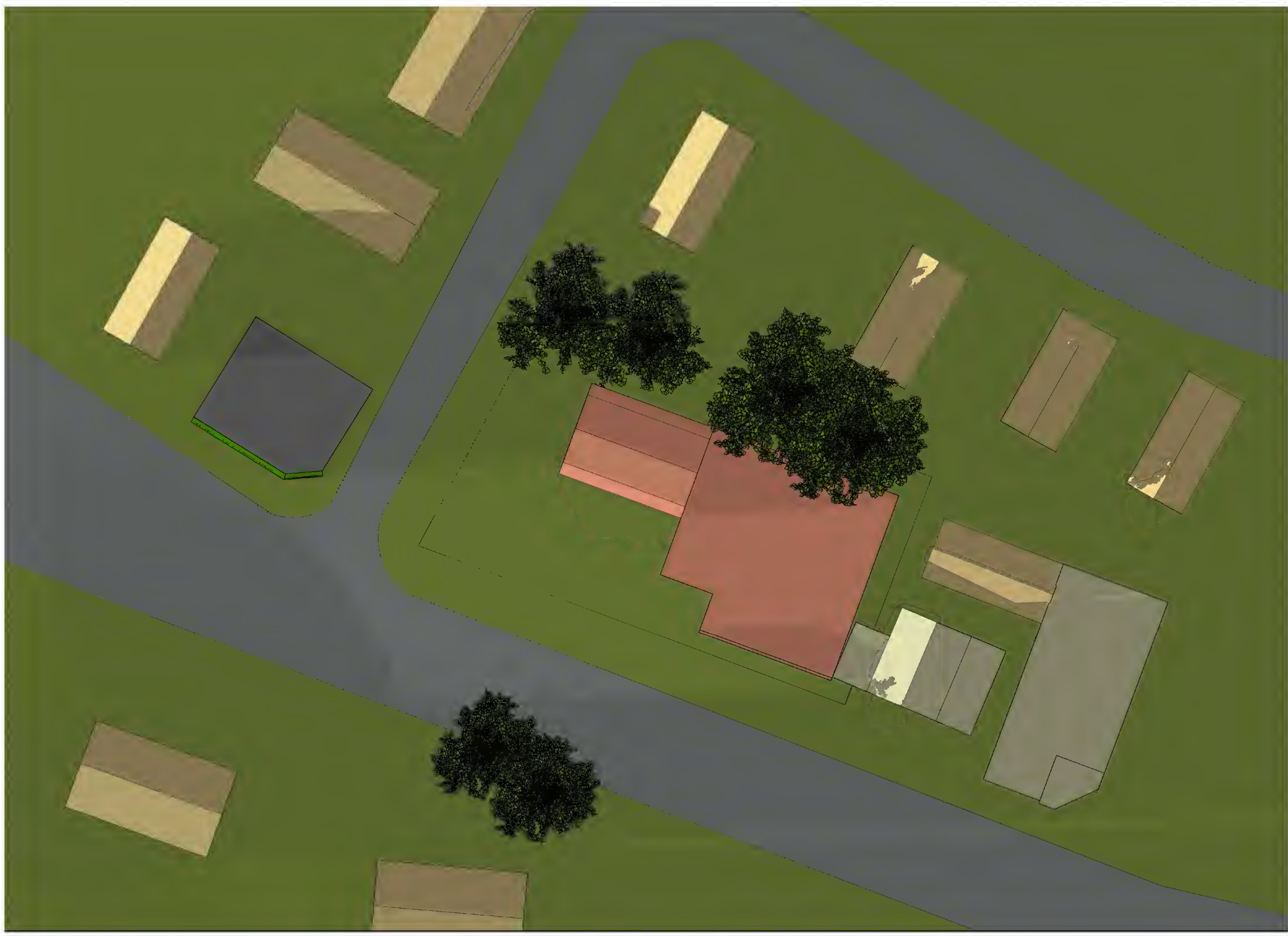
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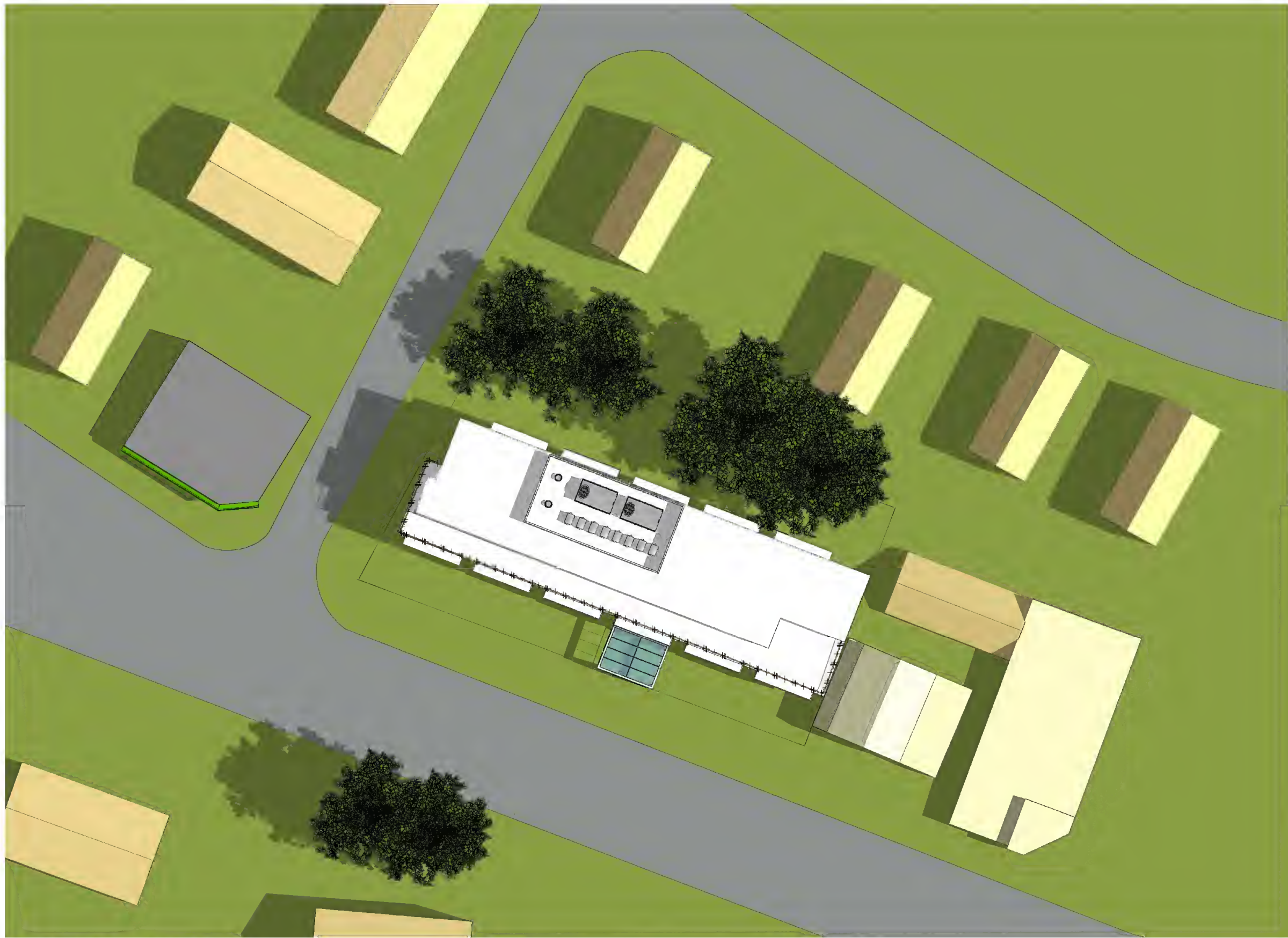
Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
SPRING EQUINOX

Project Number  
2017.032  
Drawing Scale  
N.T.S.  
Drawn By  
GMe  
Checked By  
GMe  
Date Issued  
12/12/19

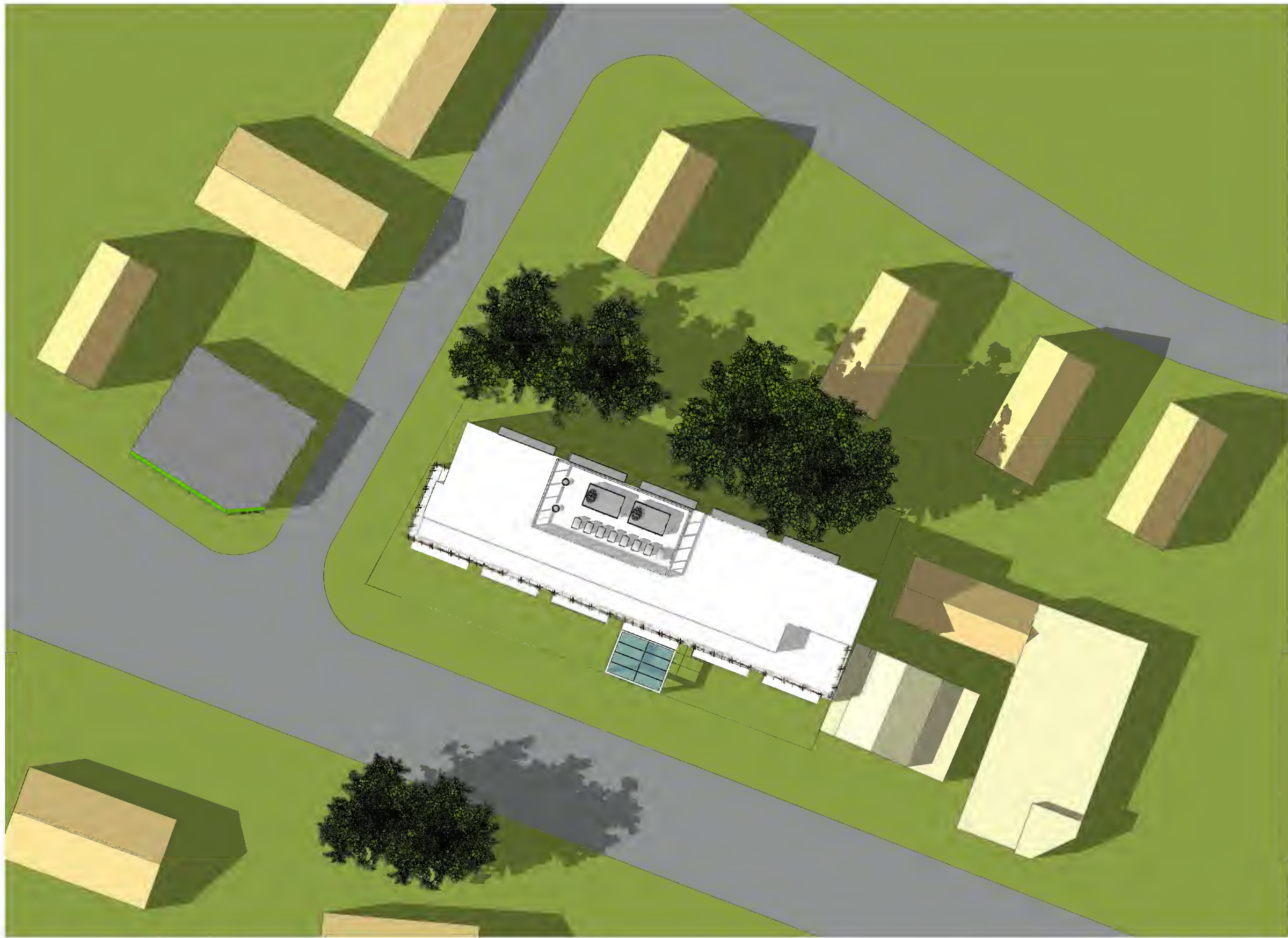




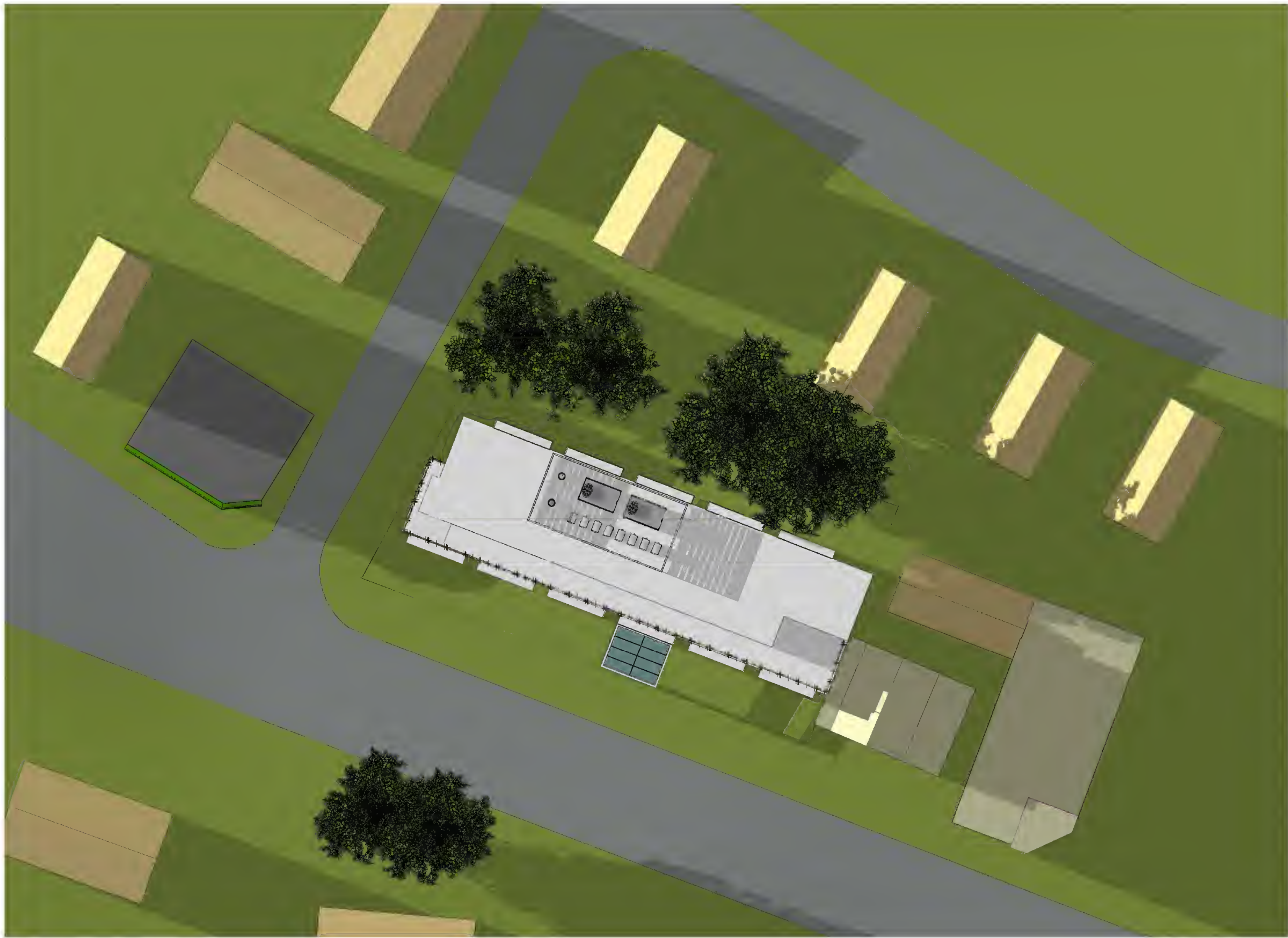
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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
PROPOSED BUILDING  
SUMMER SOLSTICE

Project Number  
2017.032  
Drawing Scale  
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Drawn By  
GMc  
Checked By  
GMc  
Date Issued  
06/23/20

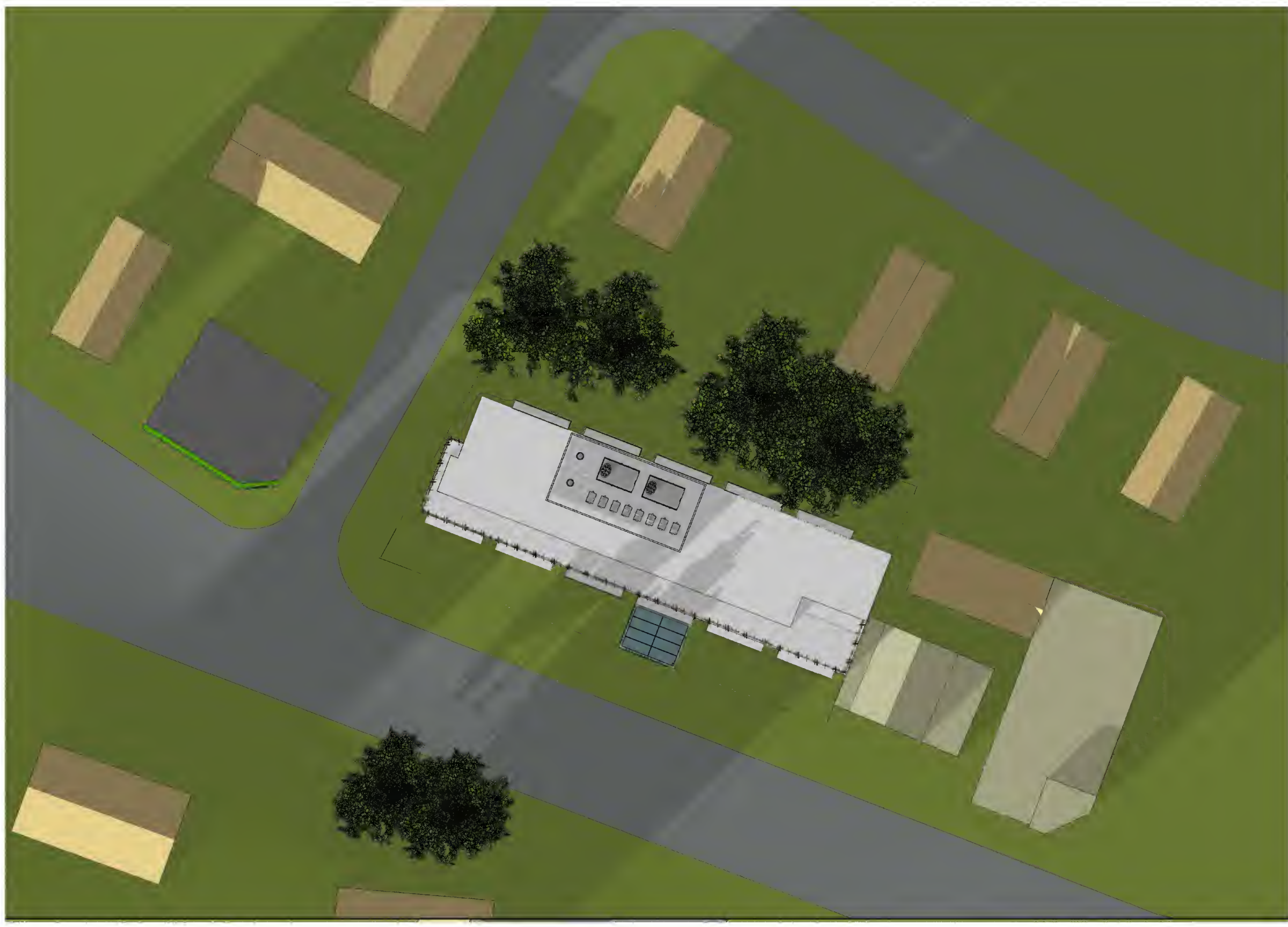




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**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**SHADOW STUDY**  
**PROPOSED BUILDING**  
**WINTER SOLSTICE**

Project Number  
2017.032  
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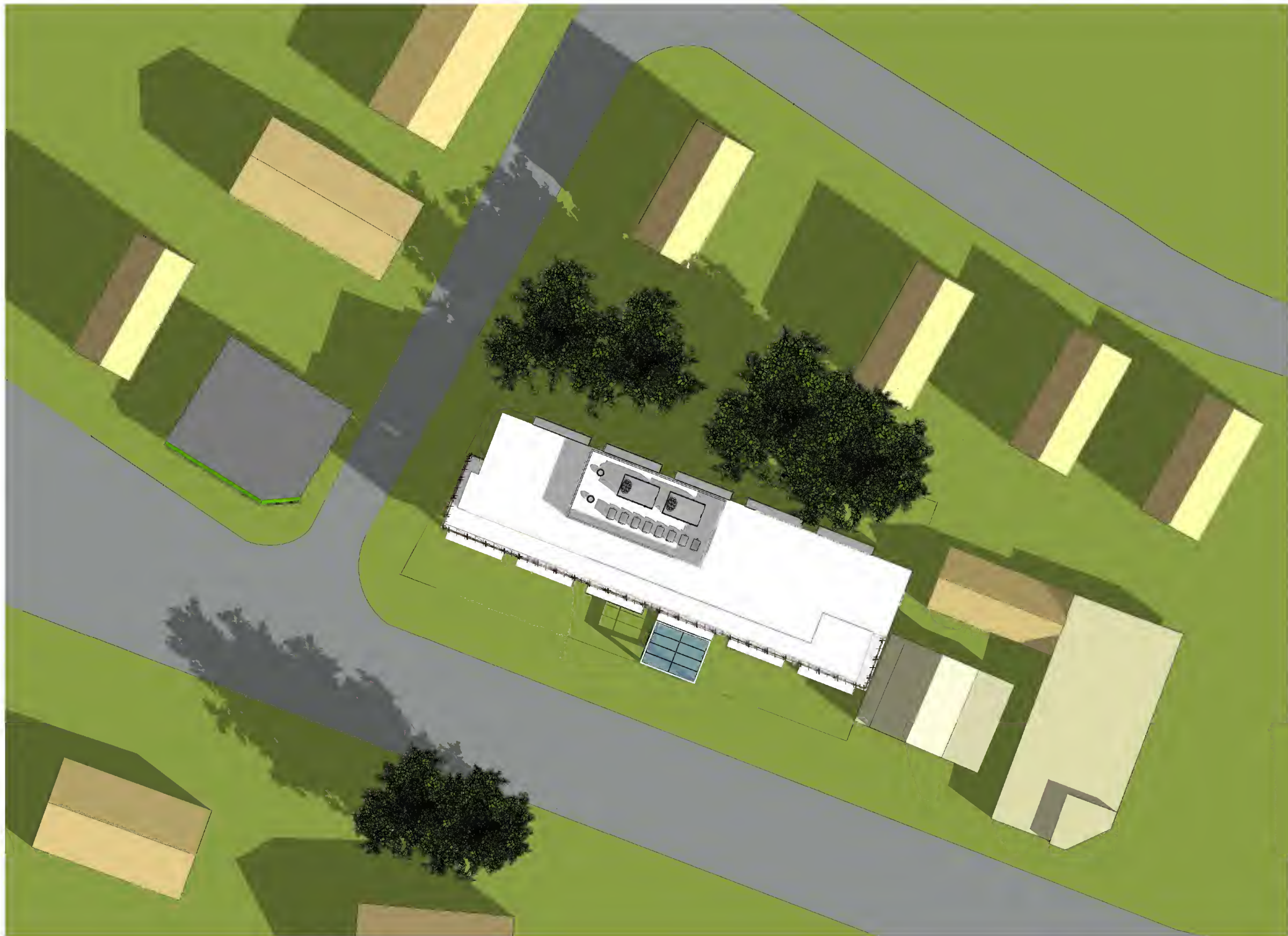
Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
PROPOSED BUILDING  
AUTUMN EQUINOX

Project Number  
2017.032  
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**PROPOSED HOTEL COMPLEX**  
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Arlington, MA

**SHADOW STUDY**  
**PROPOSED BUILDING**  
**SPRING EQUINOX**

Project Number  
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